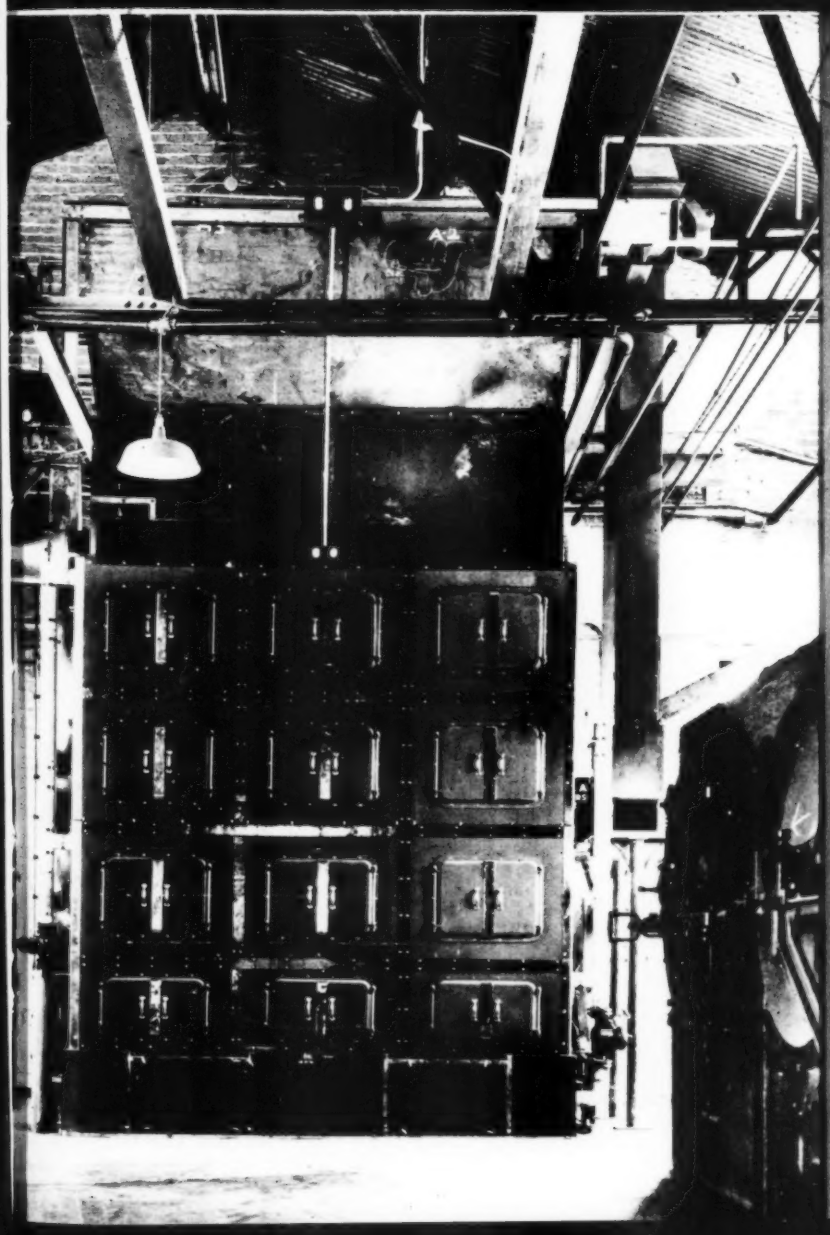
TECHNOLOGY DEPT

The Manufacturing Confectioner

ONEER SPECIALIZED PUBLICATION FOR CONFECTIONERY MANUFACTURERS



PUBLIC LIBRARY
AUG 21 1953
DETROIT

The Properties of Sugar Inversion

How to Manufacture Cordial Fruits

Packaging Marshmallows at Candyland

Testing Findings for Residual Odor

AUGUST
1953

Buying coffee?

Save fifteen cents on every dollar you spend!

You get 100% flavor strength, yet pay 15% less! AMERICAFE is the first instantly soluble coffee powder that actually gives your candies a new, unique and richer coffee flavor. There's a big market waiting for a deep-down, coffee-flavored candy. Capture it with AMERICAFE! Make up a trial batch. Test it for taste . . . for cost. Prove to yourself it's the brand new coffee flavor folks favor. Rush coupon for trial order!

Americafe Instantly Soluble Coffee

AMERICAN FOOD LABORATORIES, Inc.

860 Atlantic Avenue, Brooklyn 17, N. Y.

3968 North Mission Road, Los Angeles, Calif.

Philadelphia • Baltimore • Detroit • Chicago • San Francisco

American Food Laboratories, Inc.
860 Atlantic Ave., B'klyn 17, N. Y.

NAME _____

BUSINESS ADDRESS _____

CITY _____ ZONE _____ STATE _____

Time to double check VANILLA *Quality*

Many manufacturers today are revising their vanilla flavor formulations, and this is the time to put the stress on quality — make a change for the better. The trend is back to real vanilla taste and the standard Alva vanillas have been doing just this job for years.

In selecting any vanilla, pure or imitation, double check it with the finest pure vanilla extract. Then buy the best you can afford.

With the changing vanilla picture it is important that you check the famous Alva vanillas. There are many to suit your needs, both pure and imitation. The Alva laboratories are eager to help. Send us your problem.

PURE VANILLA EXTRACT
The finest extract, processed for over two months.

PURE VANILLA 4X
Same quality as above, four times stronger.

VANILLA-VANILLIN
The best pure extract extended with vanillin.

IMITATION VANILLA 4X
Developed on a natural vanilla bean base.

IMITATION VANILLA 4X (Special)
An inexpensive grade, excellent for specialties.

IMITATION VANILLA
A clean, brilliant flavor, fine as a chocolate stretcher.

VANILLA SUGAR (Imit.)
A dry imitation bean powder.

VAN AMERINGEN-HAEBLER, Inc.
521 West 57th Street, New York 19, New York

Alva FLAVORS

FRITZSCHE BROTHERS, INC.
FLAVOR SERVICE
Subject. Fritzsche Flavor Applications and Recommendations
Subject. Essential Oil—Dry Spice Equivalents
Subject. Vtandarome* Seasonings
Subject. Ekomo* Imitation Flavors
Subject. Fritzbro Aromes* Imitation
Subject. Fritzbro* Fruitbase Imitation
Suggestions for Using Viandarome* Seasonings
Subject. What Your Flavor Costs

free... TO CANDY MANUFACTURERS

FRITZSCHE'S *new* FLAVOR DATA SHEETS

NOW AVAILABLE to interested candy manufacturers, concise, handy-to-use FLAVOR DATA SHEETS. They tell what flavors to use and how to use them. Also Essential Oil—Dry Spice Equivalents and tabulation giving exact flavor-cost per batch figures. All sent FREE upon request in attractive, conveniently tabbed letter file folder for easy reference. Write for yours *today.*

Address us on your letterhead DEPT. M

FRITZSCHE *Established* 1871
Brothers, Inc.

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES *and* *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, Cleveland, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, *St. Louis, Missouri, *Toronto, Canada and *Mexico, D. F. FACTORY: *Clifton, N. J.*

The Manufacturing Confectioner

AUGUST 1953
Vol. XXXIII No. 8

Edited and Published in Chicago
The Candy Manufacturing Center of the World

Physical and Chemical Properties of Sugar Inversion ..... R. Heiss, et al,	19		
Odor in Packaging Materials	32		
Packaging Marshmallows at Candyland	38		
Cordial Fruits ..... W. Richmond	63		
Diabetic Candy	58		
The Future?	61		
Confectioner's Briefs	6	Classified Ads	73
Calendar	16	What's New	51
Candy Packaging	25	Association News	48
New Packages	36	Candy Clinic	67
Supply Field News	43	Advertiser's Index	74

COVER: The PROBAT Roaster for cocoa beans and peanuts at D. Ghirardelli Co., San Francisco.

EARL R. ALLURED—Founder
P. W. ALLURED—Publisher STANLEY ALLURED—Editor
JAMES ALLURED—Eastern Manager WESLEY CHILDS—Technical Editor
ALLEN ALLURED—Sales Manager M. G. READE—English Representative

Publication Office	Eastern Office	London, England
418 N. Austin Blvd.	303 W. 42nd St.	Prospect House
Oak Park, Illinois	New York 36, N.Y.	Heath Street N.W.3

Application for re-entry because of change of frequency pending by **The Manufacturing Confectioner Publishing Company**, publishers of **The Manufacturing Confectioner—The Blue Book—The Candy Buyer's Directory**. Executive offices: 418 No. Austin Blvd., Oak Park, Illinois. Telephone EUclid 6-5099. Eastern offices: 303 West 42nd Street, New York City 36, N. Y. Telephone CIrcle 6-6456. Publication Offices: Pontiac, Illinois.

Copyright, 1953, Prudence W. Allured. All rights reserved.

Subscription price: One year $3.00. Two years, $5.00. Per copy, 35c. "Purchasing Executive Issue": $2.00. In ordering change of address, give both old and new address. Entered as Second Class Matter, April 20, 1939, at the Post Office at Pontiac, Illinois, under the Act of March 3, 1897. Member: National Confectioner's Ass'n, Western Confectionery Salesman's Ass'n, National Candy Wholesalers Ass'n, Audit Bureau of Circulation, Associated Business Publications. Foreign Subscriptions: One year, $4.00. Two years, $7.00. Canadian Subscriptions: Same as U. S.

All business is specialized

. . . and nothing specializes on the candy business like The Manufacturing Confectioner

This sea-going salesman can sell more because he specializes. The candy business, too, is specialized. That's why it pays to keep up with The Manufacturing Confectioner, which specializes on the business problems you meet daily. Follow the editorial features which gather, weigh and interpret the news . . . . . and the ads that report new products, materials and services.

The Manufacturing Confectioner is the ONLY trade journal edited EXCLUSIVELY for candy manufacturers

Confectioners' Briefs

E. J. Brach is featuring movie stars in a national advertising campaign called "All Star Candy Promotion," using national magazines and bill boards in major markets. **Mr. John S. Brooks,** the advertising manager, states that the promotion will be on Brach's Burgundy Mix, Candy Corn, Chocolate Peanuts, Chocolate Cherries, Chocolate Treats, Toffee and Nut Goodies. The billboards will feature the Mint Bar.

Chunky Chocolate Corporation has purchased the Abbott & Costello Film Show for the purpose of advertising their chocolate bar, **Mr. Jeff Jaffe,** president of the corporation has announced. The show will be a half-hour program beginning on October 3rd, and will be backed up with a full dealer campaign complete with window streamers, dealer letters, point-of-purchase displays, etc. In addition, **Mr. Jaffe** announced Chunky Sun-Ripened Raisins, a new product, which will have its own advertising program.

Sweet Candy Co., Salt Lake City, bought 6,074 transcribed announcements on the full facilities of the Intermountain Network. In September these will be released over 39 radio stations covering nine. states. Extensive radio advertising such as this has never before been done in the history of the company.

Wm. Wrigley Jr. Co. of Chicago will sponsor the "Gene Autry Show" beginning August 2nd. on CBS Radio. **Byron E. Wrigley** was elected a vice president, and **James C. Cox,** chairman of the company, has resigned.

Brock Candy Company, Chattanooga, Tennessee will be offering "Dream Boats", a new line of 10c candies this fall, **Mr. W. E. Brock, Jr.** announced. One compact display box will contain one dozen each of four kinds of chocolate-covered candies: peanut butter chips, mints, caramels and coconut, all separately wrapped in printed cellophane. A very short trial run on this new item was made last Spring and it is expected to have good possibilities in the 10c retail field.

Hunt's Ltd. sales reports for the first three months of 1953 show an increase of $10,300 over last year's corresponding period. The net profit was $15,400 as compared to last years' quarter of $15,300. The company's confectionery plant is being extended and three new stores are being opened in the Toronto area.

Blum's of San Francisco changed its management in July, 1952, and since then has been showing economic progress. In its recent audit for fiscal year

MERCKENS

Makers of Fine Chocolate and Cocoa

MERCKENS CHOCOLATE COMPANY, INC.

155 Great Arrow Avenue, Buffalo 7, New York

BRANCHES AND WAREHOUSE STOCKS IN

BOSTON, NEW YORK, CHICAGO, LOS ANGELES, OAKLAND, SALT LAKE CITY, SEATTLE

This is a sign the candy's good!

and this.. is a sign that helps you make sure the candy's good!

Use Anheuser-Busch

THIN-BOILING & MOULDING

STARCHES

AND ALL REGULAR AND SPECIALTY TYPES OF

CORN SYRUPS

Let us tell you more about these fine ingredients for finer candies

Corn Products Department

ANHEUSER-BUSCH, INC. · · · ST. LOUIS

ending January 1953, the company showed a net loss of $90,881 as compared with a loss of $206,996 in the previous fiscal year. **Mr. Robert Beattie,** president, says that the improvement in operations is continuing and that they anticipate a profitable operation for the current fiscal year. Mr. Lewis Weil, general production manager, has been named a vice president, and Richard D. Tarmey, company controller, has been named treasurer.

The Quartermaster has released contract awards indicating that Melvin Sosnick Co. received an award for 121,740 pounds of starch jelly candy at 21.9c per pound; Bishop & Co. was awarded 149,110 pounds of pan coated candy at 35.5c per pound; Bunte Bros. was awarded 566,510 pounds of hard candy at approximately 25.6c per pound, and The Sweets Company was awarded 224,820 pounds of caramel candy at approximately 28.9c per pound.

Herz-Oakes Candy Co., St. Louis has seen a trend growing stronger toward neighborhood stores and has signed two new long-term leases in outlying shopping areas. Candy will be sold in each of these locations and shall possibly add luncheon facilities later. The new stores will be at Ohio and Cherokee Streets and at 62228 Easton Avenue in Wellston. **Mr. Forest Murphy,** who also operates the Busy Bee Candy Company, indicates that additional stores will be opened when suitable locations can be secured.

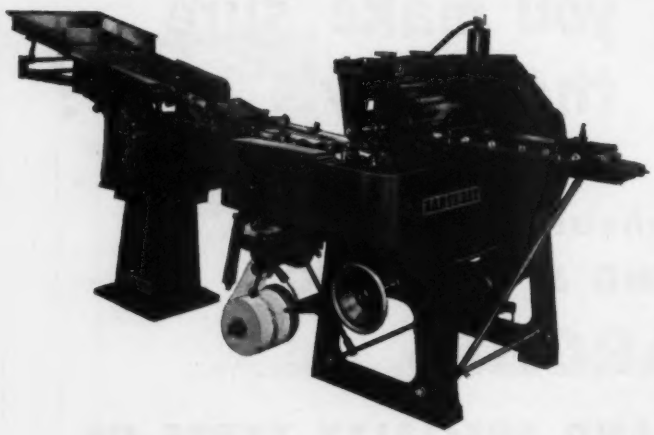
Mr. I. N. Ford has been appointed Syndicate Sales Manager of E. J. Brach & Sons, Chicago. **A. F. Hoelter,** formerly of the Chicago staff, has been chosen New York Syndicate Sales Representaive. In the Candy Specialties Division, **Don D. Heth** has been promoted to Sales Manager, succeeding **Emmet Fortier,** who will now take over the packaging and merchandising activities.

The George Ziegler Candy Company of Milwaukee has purchased **Bonita Candies, Inc.** of Fon du Lac, Wisconsin. The latter company has been in business for about 50 years and is a maker of candy bars, including the Leaping Lena brand. The company purchased is to be moved to Milwaukee in the next couple of months, taking with it some of the key personnel of the Bonita company, including president James Lindberg and Secretary-treasurer Sam Lax. The change will increase the Ziegler company's payroll about 10%.

John S. Swersey, who established his own candy firm in New York soon after resigning from Huyler's three years ago, announced that he has acquired the national and international rights, title and interest to the **Huyler's** name, trademarks, and other properties, other than the six restaurants. A very intensive promotional drive is anticipated using this name on a wide range of food products in addition to confectionery.

L. Russell Cook, sales manager of **Ambrosia Choc-**

BARTLEET ROLL PACK MACHINE



★ for packaging of round tablets of uniform size—compressed lozenges, moulded chocolates, seamless tablets etc.

★ also for extruded chocolate or candy sticks

★ inner wrap of backed foil, film, paper etc. from the reel with outer label from the stack
or single laminated wrap or multiple wrap from reel (s) with electric eye registration, if required

★ packs from 1" to 6½", diameters from ½" to 1¼"

★ one machine can wrap more than one size pack

★ customers' special requirements can be met

★ speed 70-90 packs per minute

★ machines already working in the United States

★ best British construction, low price, quick delivery

★ full information on request

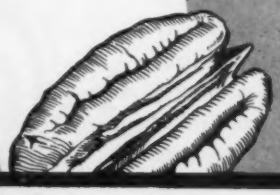
BARTLEET

NORMAN BARTLEET LIMITED 43-51 Upper Ground Blackfriars, London S E 1

U.S. Agent: C. Robb Esq., Continental Packaging Equipment Company, Box 963, Springfield, Mass.

SOUTHERN BELLE Pecans

ARE DOWNRIGHT DELICIOUS



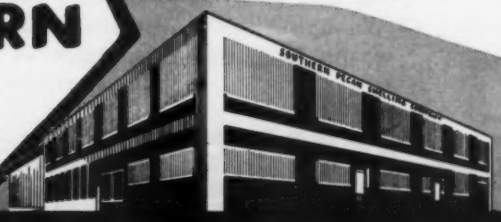
...they'll boost your sales

LIKE MAGIC!

Southern Belle Pecans are available in halves or pieces of various sizes. All are consistently of the very highest quality.

Southern Belle Pecans are assisting greatly in increasing the eye and taste-appeal of the products of America's leading candy manufacturers. We invite you to get details and prices today.

SOUTHERN BELLE SHELLED PECANS



SOUTHERN PECAN SHELLING COMPANY

GUILBEAU STATION - SAN ANTONIO, TEXAS

olate Co., has been named executive vice president of the company.

Several recent promotions and appointments at **NECCO.**

W. Arthur Warren, general sales manager
Henry C. Wright, regional sales manager
Howard A. Maynard, grocery division manager
Roger W. Convey, syndicate division manager
Proctor A. Coffin, director of market research department
Vaughan Harmon, factory superintendent

Theodore A. White

Theodore A. White has terminated his seven year connection as vice president and general manager **Sierra Candy Company** and vice president **McPhail Candy Corporation** of New York. Mr. White has taken an office at 625 Market St., San Francisco, California, and will make known his plans shortly. Mr. White was the original founder of the Sierra Candy Company which was sold in 1947, and since that time has directed the affairs of that company.

Bill Larson has resigned his position as production manager with **F & F Laboratories,** and is spending his summer vacationing. He has no plans at present other than a possible trip through this country and Europe surveying candy plants. Mr. Larson was with Life Savers before joining F & F.

It is believed that **Brewster-Ideal Chocolate Co.** has purchased the plant formerly used by Mennen & Co. at 345 Central Avenue, Newark, N. J. The chocolate firm had to leave its former quarters as they were slated for removal for a housing development. The Brewster-Ideal firm manufacturers chocolate, and through its subsidiary **Dairy Maid,** manufactures and markets consumer chocolate and candy products.

Mr. Harry A. Levy

Bard & Margolies, Inc., has announced the appointment of **Harry A. Levy** as sales manager of the **Lucy Lynne** division of that company. Mr. Levy plans to promote the Lucy Lynne line of packaged and bulk chocolates throughout the United States.

George M. Emblidge has been named assistant confectionery sales manager of the **Wilbur-Suchard Chocolate Co., Inc.**

Frank Petrovic has joined the **Lucky Candy Company,** Chicago, as production manager.

Martinson's Coffee Company of New York City has entered the candy manufacturing business with a coffee flavored candy. This candy is said to be composed of only coffee, fresh cream and corn

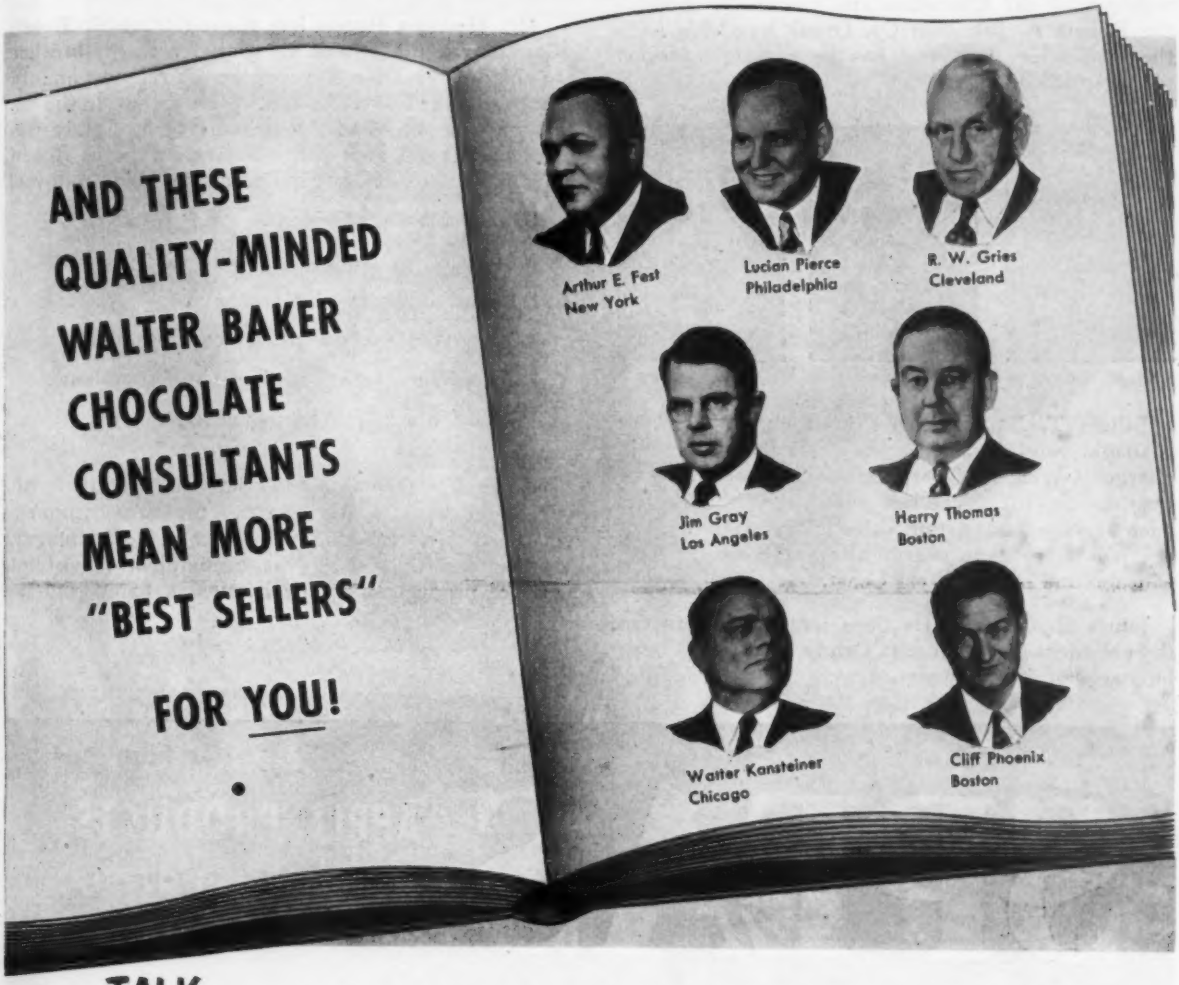
It's hard to do...but it *can* be done, and Wilbur does it again and again

HITTING the mark consistently is the rule at Wilbur-Suchard. Only a Wilbur Chocolate Coating will do justice to your centers because only Wilbur assures you of the same fine *flavor*, month after month. Wilbur's "quality control" takes care of that. Expert blending of a variety of cocoa beans, plus long experience in the roasting and other processing are the secrets of Wilbur's ability to maintain a consistent flavor quality in chocolate coatings.

WILBUR UNIFORM QUALITY CHOCOLATE COATINGS

WILBUR-SUCHARD CHOCOLATE COMPANY, INC. • LITITZ, PA.

BAKER'S *means* BUSINESS!


AND THESE QUALITY-MINDED WALTER BAKER CHOCOLATE CONSULTANTS MEAN MORE "BEST SELLERS" FOR YOU!
Arthur E. Fest New York
Lucian Pierce Philadelphia
R. W. Gries Cleveland
Jim Gray Los Angeles
Harry Thomas Boston
Walter Kansteiner Chicago
Cliff Phoenix Boston

TALK to any one of these Walter Baker Chocolate Consultants and you discover that here is a specialist with a *lifetime* of chocolate confectionery experience—ready to serve you.

VISIT the Walter Baker plant and laboratories (you're always welcome)! You'll see America's most *experienced* chocolate-making organization, using modern-as-this-minute techniques! . . . All under the leadership of men who know your business, *because they began by selling and serving you in your own confectionery field!*

SAMPLE the high-grade Walter Baker products—chocolate coatings and liquors that are made especially for your finest confectionery requirements. You'll clearly understand, then, how Baker's means business for *you*—with chocolate quality that sells and sells again!

If It's Chocolate — Baker's Makes It Best

WALTER BAKER CHOCOLATE AND COCOA

Division of General Foods Corporation, Dorchester 24, Mass.

Sales offices in Chicago, Cleveland, Detroit, Los Angeles, New York, Philadelphia. Brokers in all principal cities.

syrup. It is now available in a six ounce window box, and plans are being made for other types of packaging for outlets that require it.

Fred W. Drenk, Jr., has been named general sales manager of the Chocolate and Cocoa Division of the **Robert A. Johnston Co.** Drenk has been with the firm since 1937, and has been assistant sales manager since 1948.

Fred W. Drenk, Jr.

Julian T. Barksdale

James Lindsey

Juliam T. Barksdale has been appointed Sales Manager, and James Lindsey Vice President in charge of Western Operations of **Stephen F. Whitman & Son, Inc.** Since last year Mr. Barksdale has been serving as assistant sales manager. Mr. Lindsey will continue in charge of all activities in both Chicago and on the West Coast.

James E. Conerty has been named assistant to the president of the **Curtiss Candy Co.** He has been in charge of branch warehouses.

L. G. (Lou) Burns has plans to open the Riviera Beach Candy Making School in Riviera Beach, Florida. He has built a candy laboratory in this city, and plans to open the school in September.

Mr. Herman Rosen has retired from **E. Rosen Company.** He has been associated with his brother in this business for 40 years, and is retiring mainly for health reasons. As of September first, the E. Rosen Company and the School House Candy Co. will be merged, and will be known as the E. Rosen Company, Inc. The organization will be as follows:

Samuel Rosen, president.

Marvin S. Holland, Assistant to the president

Leonard Brount, sales manager

Walter Adelsberger, plant superintendent

Robert West, assistant plant superintendent

Wallace Slack, purchasing agent

Champion Bag Company have moved their offices and plant to new quarters at 160 N. Loomis, Chicago. Mr. Robert Swanson, the sales manager, states that the move was accomplished without loss of production or inconvenience to customers.

SPEAS

APPLE PRODUCTS

the Standard of Quality for sixty years

NUTRL-JEL

for preserves, jams, jellies, marmalades

CONFECTO-JEL

for jellied candies

CONFECTO-JEL—a buffered apple pectin mixture for jellied candies—ready for use.

CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

HOW TO MAKE A GOOD

BUTTER ALMOND TOFFEE*

USE BLUE DIAMOND ALMONDS

Coast-to-coast the nation's leading candymakers specify "Blue Diamond" Almonds. One good reason is simply this: Blue Diamond *quality minimizes handling and sorting costs in your plant.* Blue Diamond Almonds are California's finest, electric-eye-sorted then hand-picked, guaranteed uniform in quality and size, free from foreign particles, dust, chaff, or bitters. Order whole kernels (natural or blanched) or specify sliced, diced, halved, split, chopped, or slivered almonds. Remember, people *like* almonds. In scores of famous candies almonds are the key ingredient . . . the difference between a best seller and an "also-ran".

FORMULA BOOK FREE. Write for samples, prices, and free 16-page formula book. We're almond specialists, and have been for more than 42 years.

Blue Diamond ALMONDS

CALIFORNIA ALMOND GROWERS EXCHANGE
SACRAMENTO, CALIFORNIA
Sales Offices: 100 Hudson Street, New York 13 and 221 North La Salle Street, Chicago 1

BLUE DIAMOND BRAND

*Here's your formula.

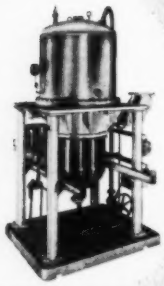
- 10 pounds granulated sugar
- ¾ pounds invert sugar
- 4½ pounds dairy butter
- 2 pounds coconut oil (76° M.P.)
- 1 pint water
- 1 ounce Lecithin
- 3 pounds whole, sheller-run, or whole-and-broken almonds
- 1 level teaspoonful baking soda

Place butter and coconut oil into a pan, melt, and add Lecithin, mixing well. Mix in granulated and invert sugars, add water and stir until boiling.

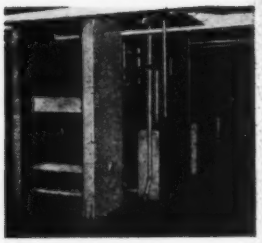
Wash all sugar crystals from the pan. Stir and cook the batch to 275° F. Turn off heat, sift in baking soda, mixing rapidly, and pour the batch on a slightly oiled, cool slab, spreading to the height of the almonds.

When partially cool, turn upside down and cool to 75° F or less. Coat thinly on both sides with milk or dark chocolate, and sprinkle with finely ground natural or roasted almonds.

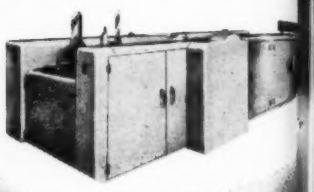
The Nation's Favorite Candies are ALMOND CANDIES



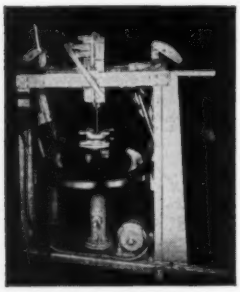
National
High Production
High Gloss
Continuous
Hard Candy
Vacuum Cooker



New National CHICKEN CORN MOGUL
With 3 D-100 Depositors and
3 Quadruple 60 Row Pump Bars



All New — All Steel — Heavy
National Mogul Model M-1



New National Cleanlined
Hard Candy Batch Mixer

DELIVERIES IN TIME FOR FALL PRODUCTION

TESTED AND PROVEN DEPENDABILITY

- Increased Production
- Lower operating costs
- Topmost performance efficiency
- New advanced time and labor saving features
- Highest sanitary standards
- Highest quality merchandise

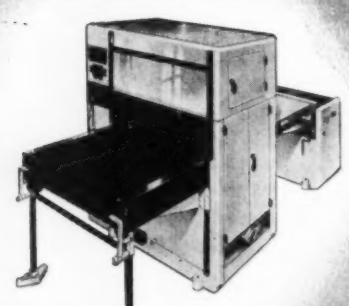
When you buy National Equipment, you're buying the best . . . the best in experience . . . the best in production performance!

Satisfied users of National Equipment such as D. L. Clark Co., Barton's, Inc., Mason, Au & Magenheimer, Chase Candy Co. (and many others too numerous to list) will tell you how these miracle machines pay for themselves. We can refer you to manufacturers in your vicinity for actual production data and possible inspection.

Now is the time to buy! Order now for prompt deliveries.
Write Today for Full Details and Quotations.

National Equipment Corporation

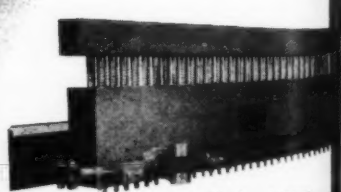
153-157 CROSBY STREET, NEW YORK 12, N. Y.



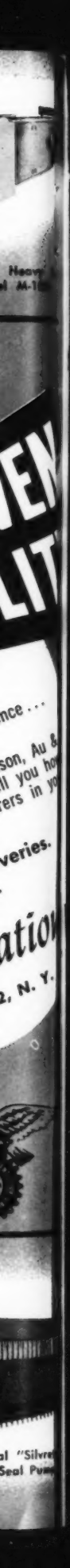
National Sanitary High Gloss Enrober
Made in 24", 34", 42" and 48" sizes

National Cooler and Packer
Finest Quality
Maximum Production
Highest Gloss

National Automatic Multiple Tier
Cooler and Packer

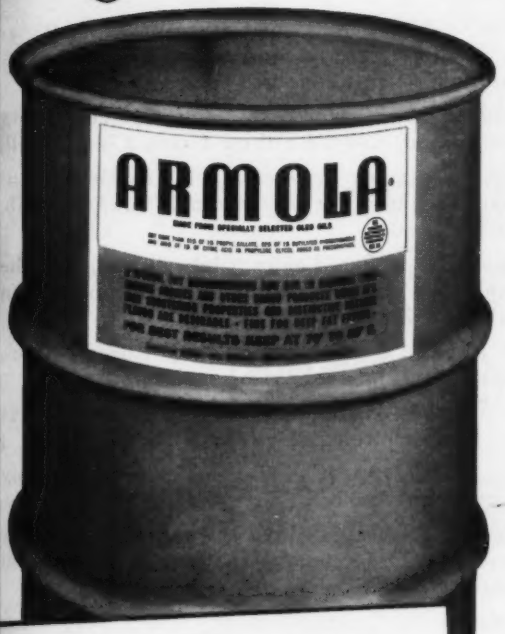


National "Silvr
Hydro-Seal Pu



Now you can lick the "Expensive Oil" Problem...

USE ARMOLA!



The quality oil made from specially selected food fats

We all recognize the problems involved in using expensive domestic and imported oils in caramels, fudge, bar goods, and other nougat-type candies. The uncertain supply and fluctuating prices keep you on edge and multiply your buying problems.

Of course, you are interested most in maintaining the quality of your product. But, if you can do that *and* realize a substantial saving on raw materials, then you've come out way ahead.

Maintain quality and save money, too!

Armour and Company can now offer you a proved, tested product which will replace expensive oils, maintain or improve the quality of your candy, *and save up to $25.00 or more on every drum.* In fact, many candy-makers have found that they use less in their candy formulas.

This product is ARMOLA . . . specially formulated from selected food fats for use in caramels, fudge, and nougat-type candies. A steady, dependable supply of domestic food fats naturally makes possible a lower price than you would pay for imported oils.

HERE'S WHAT YOU GET WITH ARMOLA!

FLAVOR—a natural, delicate nut-like flavor . . . bland, mild.

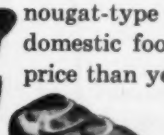
STABILITY—special Government-approved anti-oxidant assures long shelf life, no rancidity.

EASY MIXING—blends easily and quickly with other ingredients.

NO FORMULA CHANGE—use Armola with no sacrifice of uniformity.

BUTTERY COLOR and consistency . . . creamy and smooth in texture. Liquefies at body temperature.

IN DRUMS OR TANK CARS—Armola is available either way . . . to suit your candy-making operation.



FREE! MAIL THIS COUPON TODAY FOR 1-LB SAMPLE OF ARMOLA

Armour and Company, Dept. MC-853
Refinery Sales Dept., Chicago 9, Ill.

I want to see for myself what Armola will do. Please send me FREE 1-lb. sample.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

☐ Please send me technical information on Armola.

ARMOUR AND COMPANY

REFINERY SALES DEPARTMENT, General Offices, Chicago 9, Ill.

Smooth sailing

with KRIST-O-KLEER...

The Uniform Invert Sugar

You can be sure of uniformly perfect results every time—when you use KRIST-O-KLEER, the laboratory-controlled invert sugar made from pure cane sugar.

Krist-O-Kleer gives you all these exclusive advantages:

- maximum sweetness
- more soluble
- bland, without flavor of its own
- water-white or light straw in color
- easy to handle and store
- low in cost

For detailed information on KRIST-O-KLEER, and on all other types of sugar, just telephone or write the Sales Department of National Sugar Refining Company—and you will receive immediate attention. Our laboratories and technical staff are at your service.

THE NATIONAL SUGAR REFINING CO.

New York, N. Y., and Philadelphia, Pa.

Conventions -- Meetings

August 9-11—Merchandise Show, National Association of Variety Stores, Inc., Wm. Penn Hotel, Pittsburgh, Pa.

August 13—Metropolitan Candy Brokers Association, Inc. monthly meeting at the Hotel Empire, N. Y. C. at 8 pm.

August 15—Great Plains Candy Club meeting at Castle Hotel, Omaha, Nebraska.

August 15—The Northwest Candy Club, regular meeting at Grosvenor House, Seattle, Wash. 9 am breakfast.

August 16-18—Merchandising Show, National Association of Variety Stores, Inc. Municipal Auditorium, Atlanta, Georgia.

August 23-26—National Automatic Merchandising Association, Conrad Hilton Hotel, Chicago, Ill.

August 27—Candy Production Club of Chicago annual golf outing at the Medinah Country Club, Medinah, Ill.

August 29—Dallas Candy Club meeting at the Venus Restaurant at Commerce & Industrial in Dallas at 12:30 pm.

Aug. 31-Sept. 5—National Dietary Foods Association, Morrison Hotel, Chicago, Ill.

September 3—Michigan Candy Club meeting at the Hotel Detroiter, Detroit, Mich.

Sept. 4—St. Louis Candy Sales Assoc., monthly meeting at the York Hotel, St. Louis, Mo.

September 5—The Northwest Candy Club regular meeting at Grosvenor House, Seattle, Wash. 9 am breakfast.

September 8—Central Pennsylvania Candy Club meeting and Party at Lewistown, Pa.

Sept. 10—Metropolitan Candy Brokers Assoc., Inc. monthly meeting at the Hotel Empire, 8 pm, N. Y. C.

Sept. 11—Los Angeles Candy Club regular meeting at Rodger Young Memorial Auditorium.

Sept. 12—Candy Jobbers Banquet at the Chamber of Commerce, Seattle, Wash. 6:00 pm.

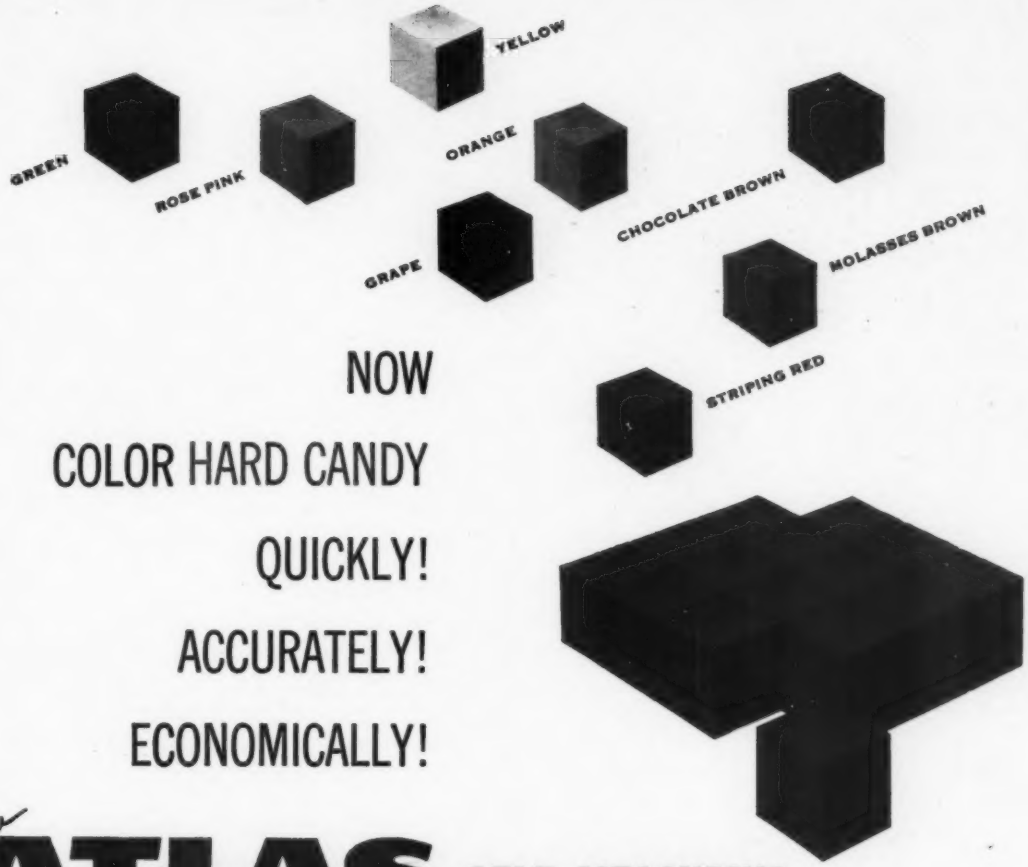
Sept. 14— Confectionery Salesmen's Club of Baltimore, Inc. meeting 12:30 pm, Gannons, 3150 Frederick Rd., Baltimore, Md.

Sept. 19—Great Plains Candy Club meeting at Castle Hotel, Omaha, Nebraska.

Sept. 20-23—Philadelphia Candy Show, sponsored by the Retail Confectioner's Ass'n. of Philadelphia.

Sept. 25-26—Michigan Tobacco & Candy Distributors Assn. Annual meeting in Hotel Sheraton-Cadillac, Detroit, Mich.

Sept. 29—The Candy Executives and Allied Industries Club Annual Shore dinner.



NOW

COLOR HARD CANDY

QUICKLY!

ACCURATELY!

ECONOMICALLY!

New

ATLAS SELF-MEASURING CERTIFIED COLOR CUBES

QUICKLY! Atlas Self-Measuring Color Cubes are the *fast, easy, fool-proof* way for *anyone* to color a hard candy batch of *any* size. Atlas Color Cubes are readily and fully soluble in hard candy. Just use 1 cube to color a 35 lb. batch.

ACCURATELY! The *patented* self-measuring* feature of Atlas Color Cubes guarantees dependable color uniformity in every batch. In a 1 lb. box, each of the 8 2-oz. squares is precision-scored to form 16 color cubes per square. They break off easily and exactly, assuring accurate color control every time.

ECONOMICALLY! Atlas Color Cubes save you time and money. No waste – no muss – no time lost preparing pastes–and everything, even hands, are kept clean. And just 1 lb. will efficiently color approximately 4,500 lbs. of hard candy.

Want proof ATLAS Certified Color Cubes are best for your needs? Try a box . . . if not entirely satisfactory return the unused portion for full credit.

ANOTHER COLORING "FIRST" FROM THE FIRST PRODUCERS OF CERTIFIED COLORS

H KOHNSTAMM & COMPANY Inc.

ESTABLISHED 1851

89 PARK PLACE, NEW YORK 7 • 11-13 E. ILLINOIS ST., CHICAGO 11 4735 DISTRICT BLVD., LOS ANGELES 11

BRANCHES IN OTHER PRINCIPAL CITIES OF THE U.S.A. AND THROUGHOUT THE WORLD

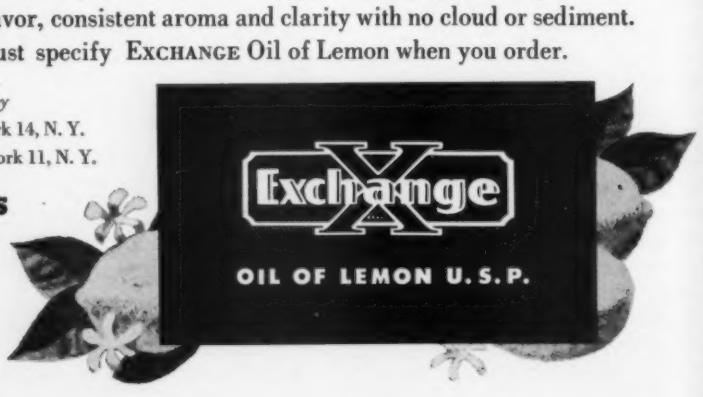
*PATENT NO. 1388174

The proof of the product is in the USAGE!

More than 80% of all lemon oil used in the U. S. is EXCHANGE Brand! An amazing endorsement! The reasons are simple. Only carefully selected lemons from the groves of sunny California are used to make EXCHANGE Oil of Lemon. This fine fruit, plus skillful processing, gives you lemon oil with superior flavor, consistent aroma and clarity with no cloud or sediment. For complete satisfaction, just specify EXCHANGE Oil of Lemon when you order.

Distributed in the U.S. exclusively by
Dodge & Olcott, Inc., 180 Varick St., New York 14, N. Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., New York 11, N. Y.

Sunkist Growers
Products Dept., Ontario, California
Produced by
Exchange Lemon Products Co.
Corona, California



Problems of the Preparation and Storage of Food Containing a High Percentage of Sugar

Physical and Chemical Principles of Sugar Inversion

by R. HEISS, L. SCHACHINGER, W. BARTUSCH

Institute of Food Technology and Packaging, Munich, Germany

THE empirical equation of sugar inversion: sucrose + water = glucose + fructose is as well known as its kinetics. The application of inversion in the confectionery industry usually follows purely empirical lines owing to the fact that some confusion prevails regarding the application of theory to practical cases. The objective of this paper is to clearly establish the role of important factors and to simplify application by presenting calculations of pertinent examples.

Formulas for the preparation of confectionery resulting from years of experience will doubtlessly yield to some extent satisfactory results provided the same raw materials are used and the same working conditions obtained. Difficulties often arise because the buffer action of ordinary sugar is very slight. Greater pH-variations may occur through the use of sugars of different origin. A full insight into all factors influencing the manufacturing process is indispensable when, for example, white sugar has to be replaced by raw sugar or one acid by another. For that reason established recipes are no insurance against serious failures, all the more so because they usually neglect the buffer action of natural water which may be of great importance. Frequently also the processing conditions are changed. In candy preparation, for instance, the individual cooks, are left standing after the addition of the acid to the sugar solution for different lengths of time at decreasing temperatures. Or, the acid catalyst is added to the sugar solution before cooking. Again, the sugar solution may not be heated up at constant vapor pressure and not to a fixed boiling point owing to imprecise weighing of the ingredients. In order to control the process, the essential factors must be assessed according to their practical outcome.

A. Principles

The inversion follows the well-known differential equation of the first order, expressing that the velocity of inversion in each moment is proportional to the amount of sucrose still present:

$$\frac{dx}{dt} = K\,(c-x) \qquad (1)$$

Upon integrating, this becomes

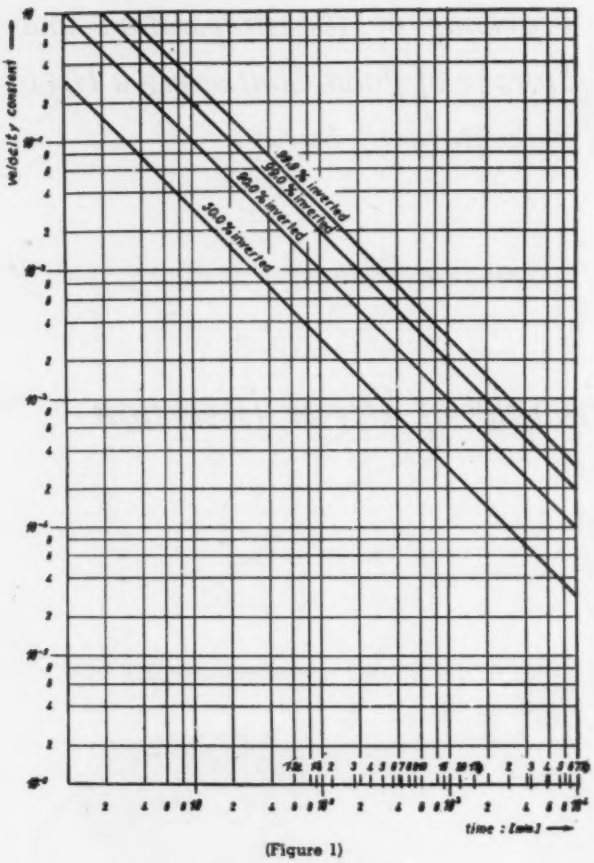
$$K = \frac{1}{t} \lg \frac{c}{c-x} \qquad (2)$$

where:

- c = initial concentration of sucrose
- x = concentration of invert sugar formed
- t = time of inversion
- K = reaction constant of the inversion, including the conversion factor from natural to common logarithms.

Figure 1 shows the relation between the time of inversion and the reaction constant for 50, 90, 99, and 99.9% inversion.

The velocity constant K of the reaction is dependent on the temperature, the pH-value of the sugar solution and on the kind of acid used.



(Figure 1)

Dependence of K on temperature

The dependence of the velocity constant K of the reaction on the temperature is expressed by Van't Hoff's reaction isochore

$$\frac{d \ln K}{dT} = \frac{Q}{RT^2} \qquad (3)$$

Considering Q in a first approximation as independent from the temperature, integrating (3) gives

$$K = K_o \, e^{-\frac{Q}{R}\frac{1}{T}} \qquad (3.1)$$

where

Q = heat of activation (cal/mol. °C)
R = gas constant (=1.987 cal/mol. °C)

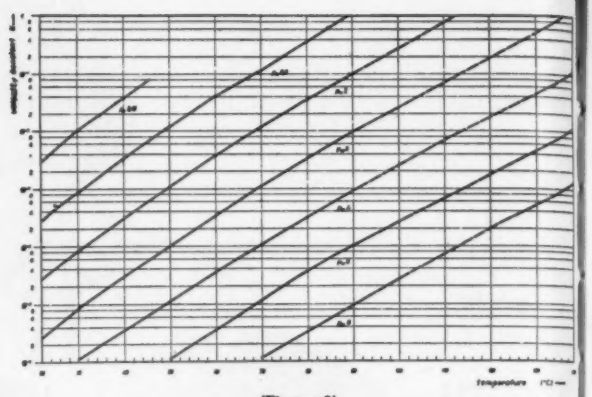
If K is known for one temperature T_1, it can be computed for any other temperature T_2 by the following formula:

$$K_{T_2} = K_{T_1} e^{\frac{Q}{R}\frac{T_2 - T_1}{T_2 . T_1}} \qquad (3.2)$$

The Critical Tables give the following values for Q/R:
Q/R = 12,925.2 at 0.01 n HCl and 50% sugar solution.
Q/R = 13,087.6 at 0.7925 n HCl and 60% sugar solution.

Dependence of K on the pH-value

Figure 2 shows the dependence of K on temperature at different pH-values of the sugar solution. The points show values observed mainly by *Jackson* and *Silsbee* (2*a-g*). The curves have been calculated from these values.



(Figure 2)

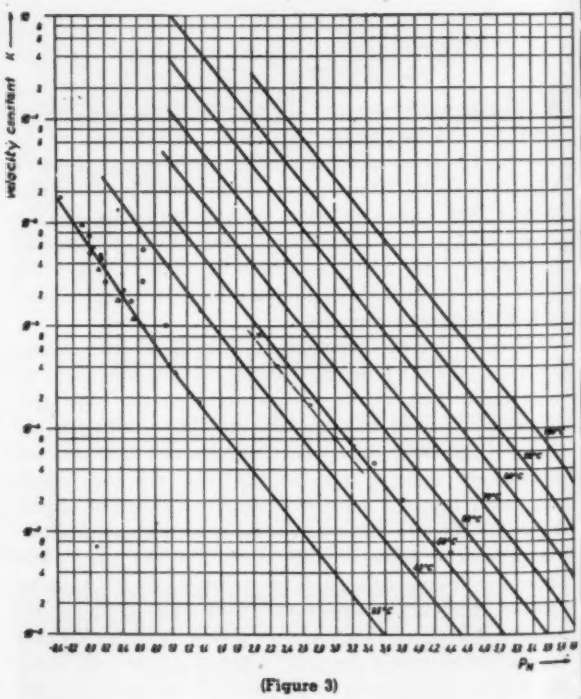
The reaction constant K is in direct proportion to the hydrogen ion concentration of the solution, except at high concentrations, that is, for pH-values less than 2. (2*f*) Eq. (3.1) must be elaborated to

$$K_{T_2} = K_{T_1} \, c_H \, e^{\frac{Q}{R}\frac{T_2 - T_1}{T_2 . T_1}} \qquad (4)$$

or

$$\lg K_{T_2} = \lg K_{T_1} + 0.4343 \, \frac{Q}{R} \frac{T_2 - T_1}{T_2 . T_1} - pH \qquad (5)$$

Fig. 3 shows the variation of the reaction constant with the pH-value at different temperatures.



(Figure 3)

The values of K shown in Fig. 3 were measured by the authors mentioned with Fig. 2 and refer to hydrochloric acid and sulfuric acid.

The sugar industry uses mainly weak organic acids. Therefore, it is important to establish whether the theoretical assumption of the inversion constant being in-

Helpful Books for Candy Plant Executives

Just Published

Profits Through Cost Control for Manufacturing Confectioners

by Frank Buese and Eric Weissenburger

This booklet is a complication of five articles which appeared in The Manufacturing Confectioner during the last two years. This material deals with the problems of cost control in candy plants, including planning for profit, controlling material costs, labor costs, distribution costs and overhead costs. The emphasis is on planning operations so that a profit will be made, and in detecting those factors which will adversely affect profit before they can seriously cut the planned profit.

A Text Book on Candy Making

by Alfred E. Leighton

Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

How to Salvage Scrap Candy

by Wesley H. Childs

This booklet is a complete revision of the authors work "Modern Methods of Candy Scrap Recovery" published in 1943. A considerable amount of information has been collected since that time on methods and techniques of salvaging scrap candy. This booklet covers all types of candy, and gives many practical and economical ways of converting scrap candy into a useful form for re-use.

Candy Production Methods and Formulas

by Walter Richmond

This is a big 640 page book designed to give practical information on (1) ingredients and cooking action, (2) mixing, coating, etc., (3) trouble shooting. Over 500 formulas are given, with the methods of processing, and their reasons why.

☐ How to Salvage Scrap Candy
$2.00

☐ Candy Production Methods and Formulas **$10.00**

☐ A textbook on Candy Making
$6.00

☐ Profits Through Cost Control
$2.00

Book Department
The Manufacturing Confectioner
Publishing Company
418 N. Austin Blvd.
Oak Park, Illinois

Date.....

Gentlemen:
Enclosed is my check for $..... to cover the cost of the books I have checked at the left.

Name ..... Title .....

Firm .....

Street .....

City ..... Zone ..... State .....

dependent of the kind of acid and solely dependent on the pH-value can be confirmed. The only measurements which had existed were these of Ostwald (4), according to which the inversion constant is, with 0.5 N acetic acid only 0.4%, with 0.5 N citric acid 1.7%, with 0.5 N phosporic acid only 6.2% of the value found with 0.5 N hydrochloric acid. Owing to the incompleteness of the data, the inversion constants of several acids were again measured by the authors of this paper. All measurements were carried out at 20 °C and pH 2. The pH values were determined with a glass electrode.

Table 1

Velocity constants of the inversion of sucrose

Acid	Concentration g.acid/l pure (free from water)	Concentration g.acid/l techn.	pH	Temp. °C	Velocity Constant K x10³	Relation of K to velocity constant of 0.5N hydrochloric acid
Hydrochloric	0.315	0.93(38%)	2.0	70	12	1.00
Sulfuric	0.62	0.64(98%)	2.0	70	8.0	0.70
Oxalic	1.0	1.4(xH_2O)	2.0	70	8.4	0.64
Phosphoric	2.6	3.06(85%)	2.0	70	8.0	0.70
Citric	24.4	36.7(xH_2O)	2.0	70	7.6	0.66
Formic	22.5	26.1(85%)	2.0	70	6.7	0.58
Lactic	19.12	28.5(67%)	2.0	70	6.7	0.58
Acetic	195.	20.8(96%)	2.0	70	5.7	0.50
Tartaric	22.65	22.65	2.0	70	8.4	0.73
Pyruvic	4.05	4.05	2.0	70	8.4	0.73
Cream of tartar (cold saturated)	4.9	4.9	3.5	70	0.14	0.44
Cream of tartar (hot saturated)	48.	48		70	0.31	
Theoretical value (cf.Fig.2)			2.0 3.5	70 70	12 0.32	

The inversion constants given in Table 1 are averages of at least 3 measurements. The pH-values were measured at 20°C. At 70°C these values will have undergone slight variations depending on the acid in question.

In the case of lactic acid, it is possible to evaluate by aid of the dissociation constant a reduction of the pH-value from 2.08 at 25°C to 1.71 at 100°C, whereas for acetic acid the pH-value increases from between 20°C to 120°C by 0.3 units.

Table 2

pH-values of some acids at higher temperatures

Acid	Hydrochloric	Sulfuric	Formic	Acetic	Citric	Tartaric	Cream of Tartar
Concentr. g/l	0.315	0.62	22.5	195	24.4	22.6	4.9
Temp. °C	pH calculated from formula 6						
20	2.09	2.04	1.96	2.12	1.88	1.88	3.51
pH measured (Beckman − Glass electrode 8990-15)							
30				2.16	1.98		3.42
40			2.22	2.14	2.05	2.02	3.51
50	2.33	2.24	2.17	2.19	2.16	1.98	3.52
60	2.12	2.28	2.19	2.24	2.10	2.00	3.57
70	2.14	2.28	2.21	2.28	2.10	2.05	3.67
80	2.16	2.29	2.24	2.33	2.14	2.09	3.74
90			2.34	2.45	2.17	2.10	3.89
△pH 20°→80°C	+0.07	+0.25	+0.28	+0.21	+0.26	+0.27	+0.23

Not only the nature of the acid, but also the concentration of the sugar solution has a slight effect on the reaction constant. Intrinsically it is a change in the activity of the hydrogen ions caused by the addition of sugar. Duboux (2*b*) showed that by addition of 11% sugar to a solution the activity, that is, the effective concentration of the hydrogen ions, is increased by 12%, corresponding to a pH-change of 0.05 units. The authors' measurements show a similar decrease of pH-value with increasing sugar concentration.

Table 3

Effect of sucrose concentration on the pH-value of a diluted acid

			pH
N/100 HCl	+ 10%	sucrose (measured under N_2-atmosphere)	2.00
	+ 20%	" "	1.94
	+ 30%	" "	1.92
	+ 40%	" "	1.87
	+ 50%	" "	1.83
	+ 60%	" "	1.80
	+ 70%	" (extrapolated)	1.76
	+ 80%	" "	1.72

A blank was run by adding sucrose to CO_2-free distilled water without acid. No pH variations were detected. Distilled water containing CO_2 showed an increase in pH with increasing sucrose concentration, probably owing to a decrease of the solubility of CO_2.

When using metal vessels for inversion, the fact should be kept in mind that traces of many metals influence inversion. (6) The velocity of inversion may increase from 2 to 6 times the normal value. Especially active are iron, aluminium, zinc, lead and molybdenum.

By aid of Fig. 1, 2, and 3, as well as Table 1 it is possible to correlate time of inversion, degree of inversion, temperature and pH-value and so fully control the inversion process.

B. Calculation of pH-values.

1. *For solutions of pure acids in distilled water.*

Already in the determination of the simple relation between acid concentration and pH-value one encounters certain difficulties even for pure aqueous acid solutions if a certain degree of accuracy is required.
According to the definition we have

$$pH = -\log a_{H^+} = \log c_{H^+} \times f_{H^+}$$

where c_{H^+} the actual concentration of H ions, but a_{H^+} the effective concentration or activity. However, in general only the total concentration of the acid used is known to the working chemist. It is only for *dilute* solutions of *strong* acids that the total concentration of the acid can be taken as practically equivalent to the H-ion concentration. With higher concentrations the electrical interaction between the ions reduces their mobility. This phenomenon is equal in effect to a decrease of the H–ion concentration and is accounted for in the formula by the introduction of the activity coefficient f_{H^+}. The activity coefficient is a function of the total ion concentration. Its numerical value approaches unity with increasing dilution. With *weak* acids a part only is dissociated into H–ions and anions, as demanded by the law of mass action. For monobasic weak acids the well-known equation applies:

$$pH = \tfrac{1}{2}p_K - \tfrac{1}{2}\log c \qquad (5b)$$

where c = acid concentration
p_K = acid exponent, equivalent to minus log Dissociation constant.

Since the dissociation constants of all acids in question lie in the range from 10^{-3} to 10^{-5}, the H–ion concentration is relatively small. The activity coefficient may therefore be disregarded in such cases with acid concentrations

of up to 0.1 mol/l. The calculation becomes difficult with strong acids and especially with the polybasic acids in use in the sugar industry. Luckily experimentation shows that even in these cases there exists an approximately linear proportion between the pH-value and the log of acid concentration within the concentration range from about N/1 to N/1000. It is convenient to make use of the following equation

$$pH = Q - m \log c \qquad (6)$$

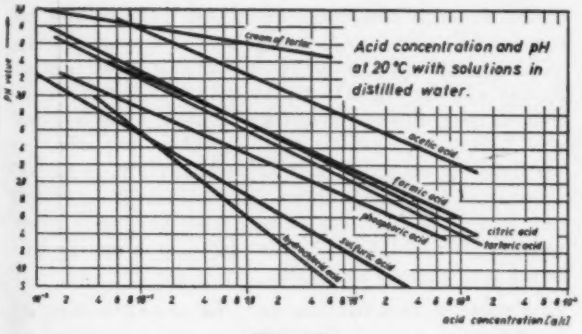
where c = acid concentration (g/l)
Q = pH of acid at a concentration of 1 g/l
m = empirical constant

In Table 4 some numerical values of m and Q are given for several acids. Part of the values were calculated from pH-values listed in the literature, and the rest are based on the authors' measurements.

Table 4

	m	Q
Hydrochloric acid	0.96	1.61
Sulfuric acid	0.84	1.86
Phosphoric acid	0.52	2.33
Tartaric acid	0.58	2.61
Formic acid	0.54	2.69
Citric acid	0.58	2.69
Cream of tartar	0.18	3.63
Acetic acid	0.50	3.27

Fig. 4. gives the acid concentration required at a given pH-value.



(Figure 4)

2. *For solutions of pure acids in natural water*

The data for the determination of the acid concentration required for a desired pH-value are no longer valid when natural water is used for dissolving or diluting the acid. This is customary with the confectionery industry. The hardening agents contained in the natural water use up a part of the acid, thus the desired pH-value is not reached. The proposed acid concentration must be augmented by an additional amount y required for the neutralization of the hardness carbonates:

$$y = \frac{G_{cao}\ 2M_{acid}}{M_{cao}\ N_{acid}} (mg./1.)$$

where M = molecular weight
n = valence of acid
G_{cao} = mg. Cao/l

Since 10 mg Cao/l = 1 dH° = 17.9 ppm $CaCO_3$, we have

$$y = \frac{2M_{acid}\ 10\ dH^{\circ}\ 10^{-3}}{N_{acid}\ 56.08} (g./1.)$$

$$y = \frac{M_{acid}}{N_{acid}} 0.357 \cdot dH^{\circ}\ 10^{-3}\ (g./1.) \qquad (7)$$

Table 5 gives the results of some experiments made with Munich tap water.

Table 5

Natural water pH = 7.25		Carbonate hardness = 13.4° dH		
acid (g/l)	pH measured	pH calculated without and with hardness correction		Remarks
Sulfuric acid				
2.24	1.55	1.47	1.52	
1.51	1.70	1.63	1.70	
0.49	2.40	2.08	2.35	
Hydrochloric acid				
0.273	2.55	2.16	2.58	
Acetic acid				as buffer system (calc. from Eq. 8)
6.67	3.40	2.83	2.89	3.40
0.70	4.40	3.37	3.49	4.58

The data given show that hardness corrections may be neglected only with strong acids at low pH-values. With strong acids at low concentration hardness corrections must be applied as given by Eq. (7).

With *weak* acids the hard water resembles a buffer system consisting of weak acid solutions of calcium or magnesium salts, necessitating a different procedure for the calculation of the acid concentration required. In this case the H-ion concentration may be calculated as follows (cf.Eq.5b):

$$H^{\bullet} = K \frac{\text{acid concentration}}{\text{salt concentration}}$$

where K = dissociation constant of the acid.

Since the free acid corresponds to the initial acid concentration minus the amount of acid consumed by the hardness carbonates, we may write:

$$H^{\bullet} = \frac{K(c-y)}{y}$$

or

$$pH = pK - \log \frac{c-y}{y} \qquad (8)$$

where
c = total acid concentration (g/l)
y = amount of acid required to compensate for the consumption of acid by the hardness carbonates (calculated from Eq. 7)

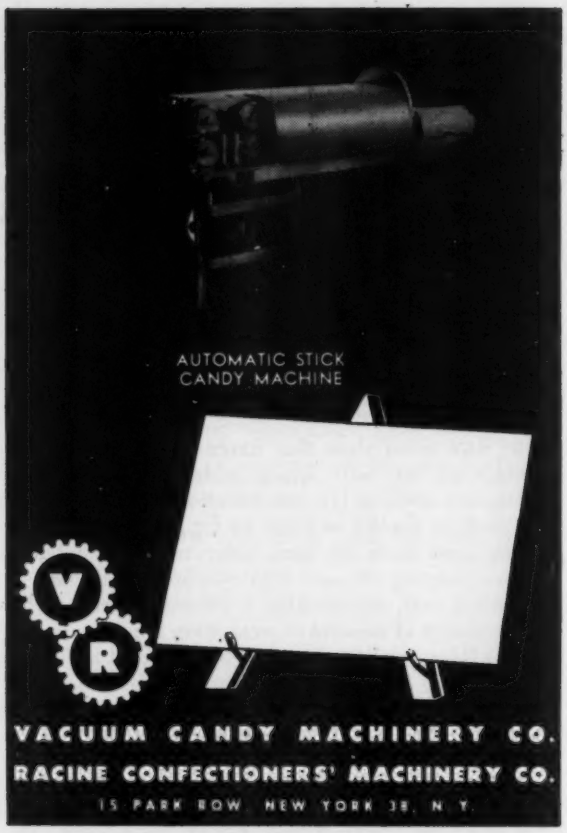
Carbonate hardness can no longer be used as a basis for calculation when a part of the components responsible for the hardness, especially the calcium ions, form an insoluble compound with the weak acid and are thus eliminated from the buffer system. In order to clarify conditions it is recommended to abstain from using natural water, since water can be economically demineralized by ion-exchangers.

Commercial sodium permutite can be of good service, because it will eliminate the unwelcome Ca-ions. Also condensation water can be recommended.

Buffering action of impure sugars

Also the sugar itself has a marked buffering action increasing with decreasing degree of purity.

Table 6 shows a comparison between highly refined sugar crystals and a poor white sugar in regard to the acid concentration required for obtaining a certain pH-value at 20°C.



BURCO Products . . . "BEST by TEST"

Variation in the finished product, regardless of cause is risky . . .

BURCO Products are "Basic Ingredients" of year-after-year uniformity. . . . A firm foundation on which to build REPEAT business.

★ **Outstanding Formula Using NU-KREME**

We recommend that you try NU-KREME, the Grade A of all nougat creams. An outstanding formula for Swiss Hand Rolls using Nu-Kreme is: 13 lbs. NU-KREME placed in a kettle cold. Add 1 lb. melted Butter and mix with paddle until incorporated. Add 7 lbs. melted Milk Chocolate Coating and 3 teaspoonfuls of Salt. Stir with paddle until coating is thoroughly mixed. Let batch stand over night. Hand roll and dip the following morning in dark or milk coating.

NU-KREME—Grade A of all Nougat Creams.

DIPPING PIECES—Molasses Honeycomb Chips, Peanut Butter Chips, Toasted Cocoanut Chips, Chocolate Center Chips, Almond Butter Sticks, Mint Pillows and Peanut Butter Pillows.

BURCO NOUGAT CREME—The All Purpose Nougat Cream.

TOPPINGS—Marshmallow, Butterscotch, Caramel and Chocolate Fudge.

CONFECTIONERS PECTIN—For Cut Slab Jellies.

NU-MILK—Whole Milk in Plastic form for Caramels and Fudges.

FRESH COCOANUT PASTE—Ready to use for Chocolate or Bon Bon Centers.

PECTOLENE—A Pectinized Invert Sugar Product.

CENTER-ROLL KREME—For Soft-flowing Creams.

KREME-TEX—For Creamy Fudge and Caramels.

Formula Book "Recipes for Better Candies" sent with initial order

BURKE PRODUCTS CO., INC.
117 W. HUBBARD STREET • CHICAGO 10, ILLINOIS

Table 6

Acid	Conc.	pH value	Acid required (cc.) Refined crystals (50% solution)	Acid required (cc.) White sugar (50% solution)
Hydrochloric	N/10	3.0	0.6	1.2
		2.5	3.0	3.9
		2.0	13.8	15.5
Sulfuric	N/10	3.0	0.8	1.9
		2.5	2.5	4.1
		2.0	10.0	13.1
Citric	M/1	3.0	0.18	0.5
		2.5	1.0	1.8
		2.0	18.1	21.3
Tartaric	M/1	3.0	0.18	0.5
		2.5	1.3	2.3
		2.0	24.5	24.4
Acetic	10 M	3.0	0.7	1.0
		2.5	7.5	10.0

The ash content was determined by measuring the conductivity in a 5% sugar solution. It was found to be 0.016% in the refined crystals and 0.054% in the white sugar. It consists of inorganic salts as well as proteins from beet sugar processing.

Table 6 shows that the maximum buffering action obtains at pH 3 or more and is of less consequence at pH 2. On the other hand, no dependence of the inversion constant on the degree of purity was found, provided the pH-value of the solution was maintained.

The frequent complaints about the unpredictable behavior of sucroses of different origins in the manufacture of hard candy may be due to the fact that insufficient attention has been paid to the variations in the buffer action, causing different pH-values to result when identical acid concentrations have been provided. The effect of the buffering action of the sucrose used on the acid concentration required for obtaining a desired pH concentration is greater than that of hardness. No unambiguous relation between the color type of a sucrose and its buffering action could be found.

C. Practical conclusions for the manufacture of artificial honey and hard candy. Cooking of hard candies.

For practical purposes it is best to write the inversion equation in the following way:

$$t \times K = \log \frac{1}{1-y} \qquad (9)$$

where $y = \frac{x}{c}$ = portion of sucrose inverted during the time t. Fig. 5 shows $\log \frac{1}{1-y}$ as a function of y.

x = concentration of invert sugar formed

c = initial concentration of sucrose

Therefore, one has only to take the reaction constant for the selected temperature and pH from Fig. 2 or 3 and to provide it with the necessary corrections taken from Tables 1 or 2 in order to obtain t or y, depending on the problem on hand.

When cooking hard candy with acids in the continuous cookers now in use, there will be two inversions; a pre-inversion in the melting pan or in the kettle, and a post-

(*Continued on page* 53)

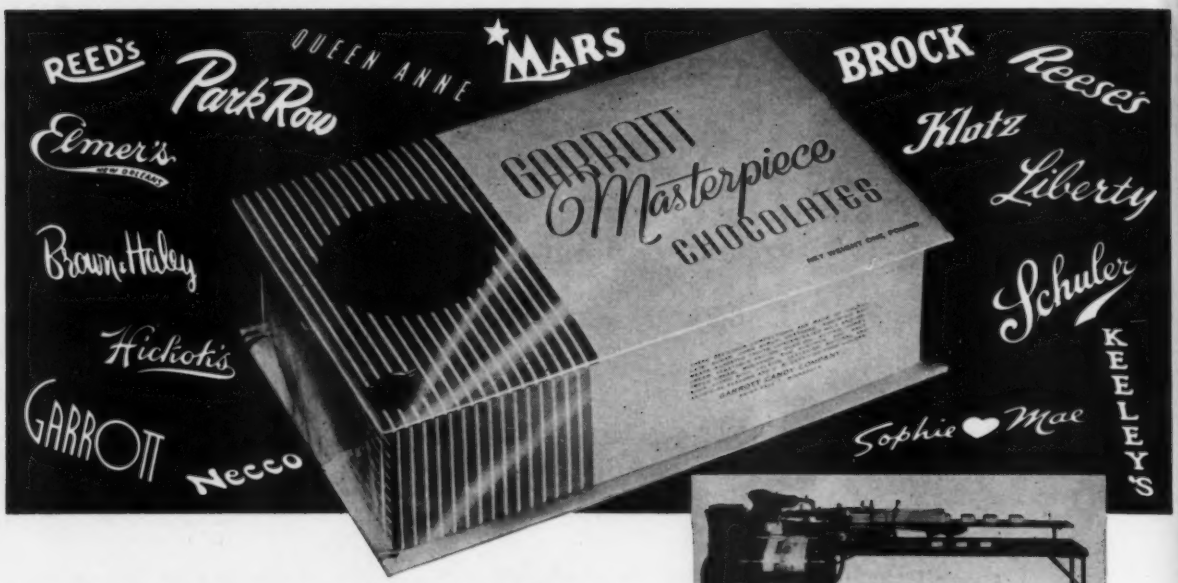
candy packaging

How to Test for Odor
in Packaging Materials

How Candyland packages
marshmallows Automatically

PUBLISHED BY
THE
MANUFACTURING
CONFECTIONER

AUGUST, 1953



SAVE HALF YOUR MONEY

...own a Hayssen Automatic CANDY BOX WRAPPING MACHINE

A Hayssen Wrapping Machine costs you less than you think and is built to occupy about half the usual floor space. Over-wrapping candy boxes with a Hayssen serves a three-fold purpose: makes a neater, tighter package, increases "shelf life," and adds to the attractive, fresh-looking appearance of your package. A showcase wrap on "extended edge" as well as plain candy boxes.

A MACHINE FOR ANY SIZE OR SHAPE OF PACKAGE

The Hayssen machine is fully automatic . . . easily handles and heat-seals cellophane, wax paper, foil, etc. If the wrapper is printed, the electric eye registers your printed message perfectly at the right location on the package. The Hayssen unit wraps up to 45 packages per minute with only one operator. Can be hooked into automatic line conveyors. Special attachments (electric eye, roll-type top labelers, etc.) are available.

Over 42 years' experience gives Hayssen machines unmatched performance, low first cost, overall economy of operation and maintenance. Many Hayssen units are in use today that were purchased over 20 years ago.

WRITE for Bulletin describing the Hayssen Candy Box Wrapping Machine. Tell us your wrapping problems—we have the answer.

IT PAYS TO WRAP THE HAYSSEN WAY

Hayssen MFG. COMPANY

Dept. MC-8, SHEBOYGAN, WISCONSIN

Since 1910, One of the World's Largest Manufacturers of Wrapping Machines

BAKED GOODS

MEATS

TEXTILES

VEGETABLES

FROZEN FOODS

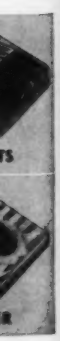
ODD SHAPES

CANDY

ICE CREAM

DAIRY

PAPER



TIONER

Milprint packages—the signal for faster sales!

The Euclid Candy Co. is another nationally-known confectioner that knows Milprint packages signal greater candy sales! It's the combination of brilliant color . . . attractive design and precision printing that makes shoppers stop, take notice—*and buy!*

Saleswinning Milprint packages are the result of over 50 years' experience, plus expert craftsmanship in design and printing . . . *plus* the widest variety of packaging materials and printing processes available anywhere. For package leadership that packs a saleswinning message to buyers and brings home the wampum—call your Milprint man *first!*

Milprint INC.

PACKAGING MATERIALS

LITHOGRAPHY & PRINTING

General Offices, Milwaukee, Wisconsin
Sales Offices in Principal Cities

Printed Cellophane, Pliofilm, Polyethylene, Acetate, Glassine, Foils, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material.

This insert printed by Milprint, Inc.

NEW FORGROVE 22-B

HIGH SPEED

CANDY WRAPPER WITH HOPPER FEED

You get four major advantages when you wrap your candy with the newly developed FORGROVE Model 22-B. First, your candy gets added sales appeal and increased keeping qualities through a sparkling, tight wrap that seals in flavor. Second, you get increased economy from the precision operation of the 22-B which cuts and applies wraps with no waste of material. Third, you save on labor costs, because the 22-B's hopper feed requires virtually no attention beyond filling. Fourth, you get increased production of wrapped candy—200 pieces per minute with ease.

This fine machine fashions an extremely tight fantail twist wrapper by means of electrically heated twisters. It is adaptable to cellophane, waxed paper, reinforced foil, or a plain transparent overwrap with printed understrip. Pieces in shapes that are not suited to the hopper feed, such as pops, may be fed by hand at lower speeds. Size change is simple and fast. Equipped with infra-red lamp to prevent candy from becoming sticky before being wrapped.

Consult our nearest office for further information

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

with Genuine

SELF-LOCKING EGG CUSHION CARTONS

Lift your Easter Candy Eggs out of the bulk class. Command better prices...sell in greater volume...increase your profit per dozen...by packing them in *genuine Egg Cartons!*

This novel packaging idea offers outstanding display possibilities . . . stimulates point-of-sale action. Its sure-fire appeal is solving Easter merchandising problems for alert candy manufacturers.

As leading manufacturers of genuine Egg Cartons, our large facilities give you high quality cartons at low cost, enabling you to pack Candy Eggs at substantial profit to yourself.

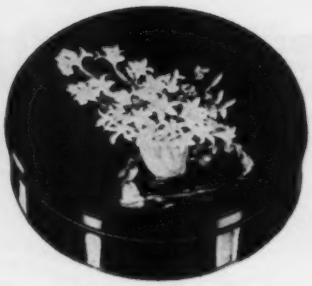
Samples and prices gladly sent on request. Stock or special designs available. Selling season is near. Write now to—

SELF-LOCKING CARTON DIVISION

General Package Corporation

585 E. Illinois St., Telephone SUperior 7-3886, Chicago 11, Ill.

★ *Pacemaker in Egg Packaging* ★



USE METAL CONTAINERS FOR

PROTECTION—Protecting the candy during shipment and in the home

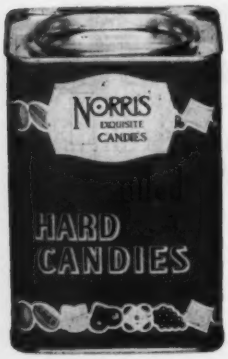
BEAUTY—The most beautiful packaging medium

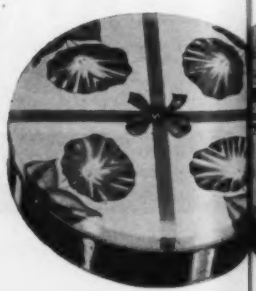
SALES—Cans are used by leading confectioners throughout the country

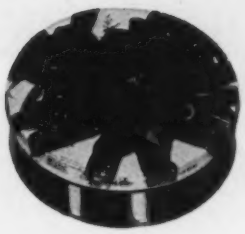
MERCHANDISING—An attractive gift item for shelf-selling

PROMOTION—The extra utility value of the container sells itself

QUALITY—Quality packaging for quality candy







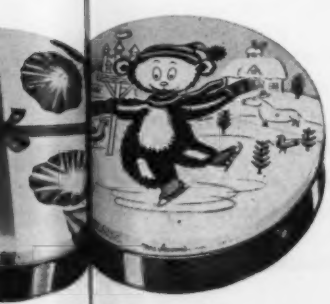
PROTECTS—DISPLAYS—SELLS

MINTS HARD CANDIES

CHOCOLATES ASSORTMENTS

Manufacturing retailers and wholesalers all over the country are using metal containers. They have found cans to be a sales boost to seasonal and holiday items, as well as for those "in-between" times. Do you have an item never before packaged in metal cans? Write us, and let us design and style a can for your confections.

STOCK OR CUSTOM
DESIGNS AND SIZES
QUALITY SERVICE BY



GROVE CAN COMPANY
MANUFACTURERS • DESIGNERS
PLAIN • LITHOGRAPHED
METAL CONTAINERS
450 N. LEAVITT ST., CHICAGO 12, ILLINOIS

ODOR OF PACKAGING MATERIALS

TAPPI Suggested Method T 483 sm-53

PRODUCTION Problems are solved by CHAMPION

Quality producers of cellophane and glassine printed bags and roll stock

Champion's Field Service is just another one of the many "plus values" that **Champion** offers . . . a service that has solved many a customer's production problems in handling cellophane and glassine bags and roll stock in their filling and wrapping operations.

Champion's Packaging Specialists, located coast-to-coast can give you proof of **Champion's** ability . . . in packaging design, in top-quality printing, in timely delivery to tight schedules—plus a field service "extra" in solving your production problems on the spot. Make a note to see your near-by **Champion** Packaging Specialist soon. *Remember—it's a mark of a* **Champion** *to deliver under pressure.*

CHAMPION BAG COMPANY
4628 West Washington Boulevard
Chicago 44, Illinois

This Suggested Method is under the jurisdiction of the Packaging Materials Testing Committee. This method is suggested by the Standards Committee as being the most suitable to date. It is not, however, a TAPPI Standard. Criticisms are earnestly requested and should be sent to R. G. Macdonald, Secretary, Technical Association of the Pulp and Paper Industry, 155 E. 44th St., New York 17, N. Y.

THE presence of foreign or objectionable odors in packaging materials which are to be used near food, drugs, etc., may be a serious matter. The determination of the type and source of the odor, and the level, is the objective of this test procedure. The most sensitive instrument presently available is the trained human nose, and the significance of test results will be directly proportional to the ability of a test panel organized for the purpose.

Test Panel

The test panel shall consist of a test director and four to eight members. These preferably should be scientifically trained, with some knowledge of chemistry selected carefully

from those who have demonstrated an acute and discerning sense of smell, and preferably with experience covering a variety of types of odors. Nontechnical personnel, such as office girls, have proved to be excellent panel members, after suitable training. In general, the individuals of a test panel should accord with the average of the entire panel and consistent disaccord is a basis for replacement. Any members with respiratory infection should be omitted since sensitivity is thereby impaired. The senses of taste and odor are closely allied and members of the panel should also be tested thoroughly for taste sensitivity and differentiation. Taste is a useful method of detecting odors, as described under Procedure.

The references should be consulted for further information on selection and training of panel members.

Apparatus

1. *Sample Containers.* Vaporproof containers may be necessary for sampling, storage, and holding specimens for the development of maximum intensity of odor. Friction-top tin cans, Mason jars, and laboratory glassware are suitable. Containers shall be clean, dry, and free from odor. Aluminum foil or cellophane shall be substituted for any rubber gaskets or stoppers. Samples may also be wrapped directly in foil, cellophane, or vegetable parchment.

2. *Testing Room.* Detection of low levels of odor requires working space in which individual members of the panel can concentrate. The room shall be free from plant or industrial odors and to avoid this it may be necessary to take samples home at night. Extremes of temperature should be avoided, except in special cases, and all distracting influences should be minimized.

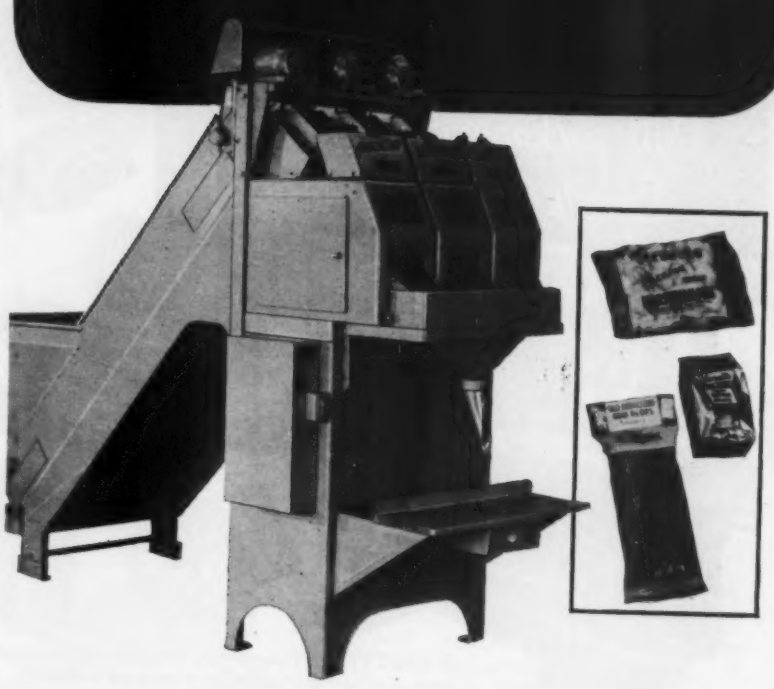
Materials

A. *Standard Samples.* In some instances, standard samples, representing satisfactory and maximum permissible levels of odor, may be set up. Maintenance of the samples is a serious problem, since age and other factors may alter odors drastically. In all cases, it is desirable to have some type of reference sample available.

B. *Water (Odor-Free).* Moisture is commonly used to intensify odors, or develop potential odors. Normally, tap water is satisfactory, except where

Accuracy!

it's with newly improved Elec-Tri-Pak Fillers



Reduces product and packaging costs

When you fill *accurately* you package profitably. You have no costly underweight or overweight problems . . . no short-fill or product give-away worries. You reduce costly, troublesome stop-and-start operations.

Triangle guarantees not only filling *accuracy* but also *speed.* New Mono-matic scale weighs as close as 1/64 oz. Controlled balance beam keeps scale steady. Vibralectric feed control assures even, gentle product flow. That means operating efficiency to meet your exact requirements—with lower labor costs too.

All these features are yours only with Triangle Elec-Tri-Paks. Get the facts for your operation soon.

TRIANGLE PACKAGE MACHINERY CO.

6639 West Diversey Blvd., Chicago, Illinois

SALES OFFICES: New York, Newark, Baltimore, Boston, Atlanta, Dallas, Denver, Los Angeles, Portland, Ore., Montreal, Mexico City

IF you make any products like these . . .
YOU'LL WANT TO KNOW HOW THE CAMPBELL WRAPPER
Cuts packaging costs—
...Speeds product production!
We are contributing to the nation's defense program by providing a large part of our increased production facilities for building precision armaments.
POND'S TISSUES

VARIETY? . . . There's little limit to the type and kind of miscellaneous products package-wrapped on the versatile CAMPBELL Wrapper. This modern machine wraps with all the latest packaging materials including films, foils and polyethelene and heat or glue seals for best product protection. Completely wrapped packages are delivered at amazing speeds of *80 to 300 units per minute*—dependent upon product but, including *single or multiple* products per package. The CAMPBELL Wrapper effects full scale labor savings too, for in many cases a single operator tends several machines at one time! Further savings are also effected in material usage, for trays or stiffeners need only be used, *if desired.* Various type feeders as well as code daters, strip openers, etc. available. No matter what your products may be—get full details on this modern method of package wrapping them today!

The perfect wrapper for:

- CANDIES AND CONFECTIONS
- FOODS AND BAKERY PRODUCTS
- PREPACKAGED TABLE MEATS, BACON, CHOPS AND PATTIES
- ICE CREAM BARS, NOVELTIES
- CITRUS FRUITS, VEGETABLES, CHEESE, DAIRY PRODUCTS
- HARDWARE, MACHINE PARTS
- TISSUES, NAPKINS, TOWELS, PAPER AND CLOTH SPECIALTIES
- BANDAGES, SOAPS, PHARMACEUTICALS AND 101 VARIED ITEMS OF REGULAR AND IRREGULAR SHAPE

New! Completely revised free booklet—Write for your copy.

New York office 55 West 42nd St.

Campbell WRAPPER

Manufacturers of Aniline and Gravure Presses, Folders, Interfolders, Laminators, Waxers, Embossers, Slitters, Sheeters, Roll Winders, Packaging Machines, Crepers and Tissue Converting Units.

residual odor or a chlorine smell is present. Distilled water is not always odorless. Each portion of water shall be smelled and tasted before acceptance.

C. *Fatty Materials.* A range of substances containing oil or fat may be used to pick up certain types of odors, with identification and degree of odor determined both by smell and taste. Common materials are mineral oil, milk chocolate, cream, and fresh, unsalted butter.

Test Specimen

The preparation of the test sample for presentation to the panel is very important. No one standard method of doing this is sufficient, since the type of materials under test and the possible odors present allow a wide range of possibilities. A few of the methods which have been used are given below as a guide; others may be devised as necessary. Each laboratory should develop and record the detailed preparation procedure found satisfactory for specific products.

I. Direct Testing

Cut or tear representative samples of the packaging materials to a convenient size. It is often desirable to open up fresh surfaces at the instant of smelling (tearing paperboard, scraping wax with a knife, breaking open a glue joint, etc.).

II. Moistening

Water brings out some types of odors. By various mechanisms, and especially when the product may be subjected to moisture, try one of the following:

A. *Breathing on Sample.* The tester exhales on the specimen, then smells it.

B. *Dampening.* Sprinkle the sample lightly with water, then smell. Time is sometimes required to develop an odor. Normally, the specimen is dampened, stored at 70 to 80°F., or at 100°F., in an odorless glass jar for 24 hr., then tested.

C. *Soaking.* Saturate or submerge the specimen in water for a period of time and at a temperature judged suitable for each case. Test by smelling both the water and the specimen.

III. Transfer to Oily Product

A. Place the specimen in a covered glass dish adjacent to but not in con-

tact with mineral oil for 4 to 24 hr. at room temperature. Oil-soluble materials such as printing ink odor, kerosene, etc., can be detected by smelling the oil.

B. Prepare three sandwiches with a pat of unsalted butter between two pieces of the specimen and overwrap with parchment or cellophane. Hold for 1, 2, or 3 days, respectively, at room temperature; refrigerate for 30 min.; then taste and smell the butter. In preparing the reference samples, use ordor-free parchment.

C. Place the folded sample in a watertight tray and add an inch depth of coffee cream (18% butterfat). Cover with aluminum foil, hold at 45°F. for 24 hr., then taste the cream. This procedure has been used widely for printing-ink odors, and is very sensitive. As an alternative, strips of material may be placed in a dish or flask and covered with cream. Run a blank test on the cream in a glass bottle with a foil cap.

D. Place the specimen in a covered glass dish adjacent to a piece of plain milk chocolate, and hold at room temperature for 1 to 2 days. Taste the chocolate and compare with a control.

E. Prepare a package by wrapping some commercial product, known to be sensitive to odor, with the specimen material. Hold for the desired time and temperature, then smell and taste the product in comparison with a control.

Procedure

All samples shall be identified only by code numbers, including the control, and the panel director shall give the testers only the minimum amount of information prior to the test. The panel director shall give each member a set of specimens and a report form. Each tester shall work independently. Table I may serve as a procedural guide.

Report

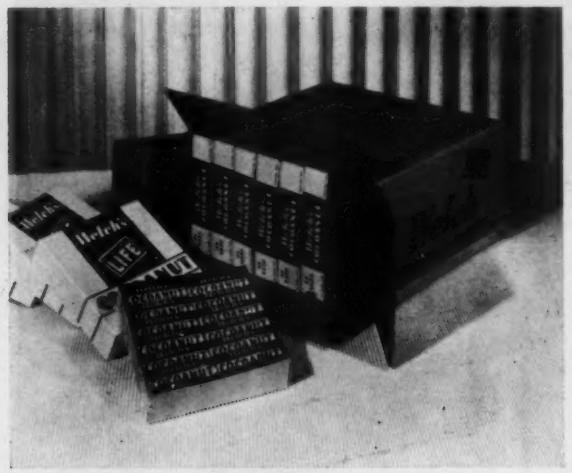
A. *Unknown Odor.* Each individual panel member shall report the type of odor (oil, solvent, musty, etc.), chemical nature, and (if possible) origin. Complete agreement by the panel on type of odor cannot be expected, but with experience, the group report will serve as valuable data.

B. *Known Odor.* When the odor is familiar, or is established, each individual panel member shall rate the

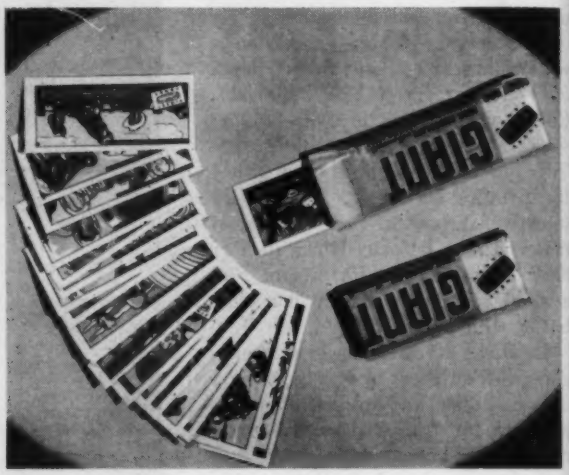
Continued on page 51

We've made it Easy—
P&P COMPANY
Whitman's Sampler
Chocolates & Confections
DECORATED bundle wraps, box covers, automatic package wraps.
Slip-easy GLASSINE for inter-leavers, wrappers and cups.
GREASEPROOF individual and bulk popcorn bags —duplex nut bags.
SUPER-CALENDERED chocolate dip papers.
MOISTURE VAPOR-PROOF fruit powder envelopes.
STICK-PROOF bulk candy bags—and case liners.
For industry leaders to combine DECORATION with PROTECTION
Stimulated sales through eye-appealing decoration, *in addition to protection*, are yours with THILCO packaging papers. Full color range base papers, numerous standard embossed and printed background patterns, plus "customizing" by aniline or rotogravure printing combine to provide the largest selection of *consumer winning* decorative packaging ever presented. Whether your requirements are for box coverings, counter rolls, bundling, case liners or automatic package wrapping, you'll find THILCO papers specially made for the job — All, as *functional* in *protective value* as your needs may demand. Write for further information and samples.
Use Thilco printed GLASSINES for flavor-saving, better selling candy wraps.
NEW YORK • CHICAGO
MINNEAPOLIS
DETROIT • CINCINNATI
THILCO
Functional Papers FOR PROTECTION THAT COUNTS!
THILMANY PULP & PAPER COMPANY
KAUKAUNA, WISCONSIN

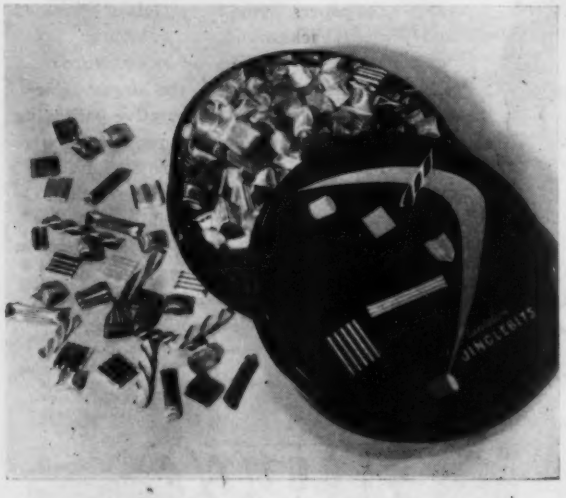
New Packages



"Advertised in Life" stamped on every shipping box of candies is the new product promotion of the James O. Welch Company, Cambridge, Massachusetts. This phrase in a prominent spot informs dealers as they are unpacking the box that the candy inside is a nationally promoted product. The company trademark is printed with bright brown lettering on each carton. Made by the Hinde & Dauch Paper Company, Sandusky, Ohio.



Lithographed trading cards, each bearing a chapter of a story, are being used in the Giant bars by Ziegler's Candy Co. of Milwaukee. There are 26 different cards telling a complete story and one series is used at a time. Besides acting as a firm base for the candy bar package, these inserts also result in a great deal of "neighborhood advertising". Created by Milprint, Inc. of Milwaukee, Wis.



A high-fashion designed tin is being used by the Plantation Chocolate Company of Philadelphia. It holds a 2½ lb. assortment of gift-packed hard candy called "Jinglebits". The all hard candy assortment consists of eight basic shapes: princess chips, buttercups, humbugs, curled sticks, straight sticks, fruit cuts, waffles, and checker boards. Designed by Gauge Associates of Wilmington, Delaware.

Foil and Kromecote Colorcast material is embossed and then printed to create the basically simple box overwraps now being used by The David Kopper Candy Corp. of New York. The De Luxe one pound assortment is in gold foil. Kromekote Colorcast, a line of cast coated papers is used for each of the other 7-ounce boxes of candy with a brilliant variety of colors to make each package distinctive although the design is the same for all. Created and produced by Milprint, Inc.

r of a
Candy
lling a
esides
these
adver-
Wis.

d and
rwraps
orp. of
n gold
pers is
with a
inctive
d and

TIONER

LET'S TAKE THE BULL BY THE HORNS...

and bring your packaging up to date. Cracker barrel methods don't bring results in today's super-marketing. Your wrap must be fully charged with sales appeal, must sell itself.

DANIELS knows how to make them that way.

We invite Inquiries

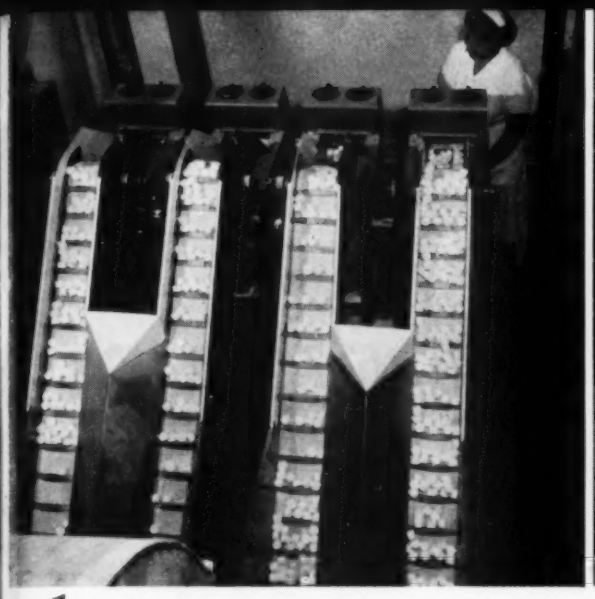
Daniels
MANUFACTURING CO.
RHINELANDER, WISCONSIN

There is a **DANIELS** product to fit your needs, for candy wraps, in sheets and rolls . . . glassine, plain and embossed • sylvania cellophane, metallic foils • laminated papers • special "Heat-Seal" papers.

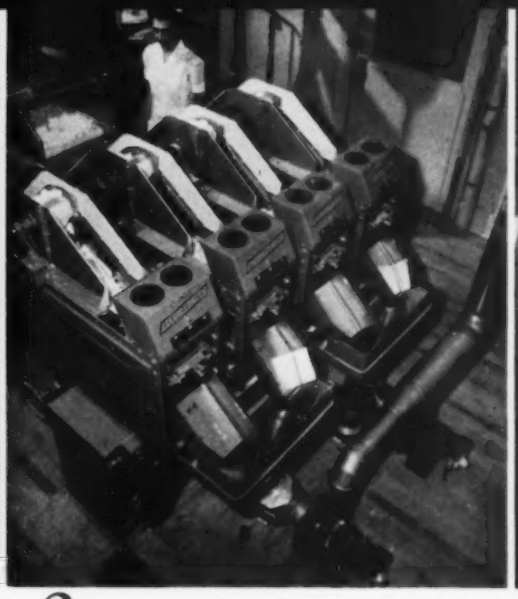
PREFERRED PACKAGING SERVICE

SALES OFFICES: Rhinelander, Wisconsin
Chicago, Illinois . . Philadelphia, Pennsylvania . . Akron, Ohio
Denver, Colorado . . Dallas, Texas . . Los Angeles, California

creators · designers · multicolor printers



1 . . . From a hopper system the marshmallows are carried up these four conveyors of the Elec-Tri-Paks. This continuous stream feeds . . .



2 . . . the four weighing hoppers in the two Elec-Tri-Paks. The blowers eliminate the sugar dust from the marshmallows as the correct weight of product falls to the . . .

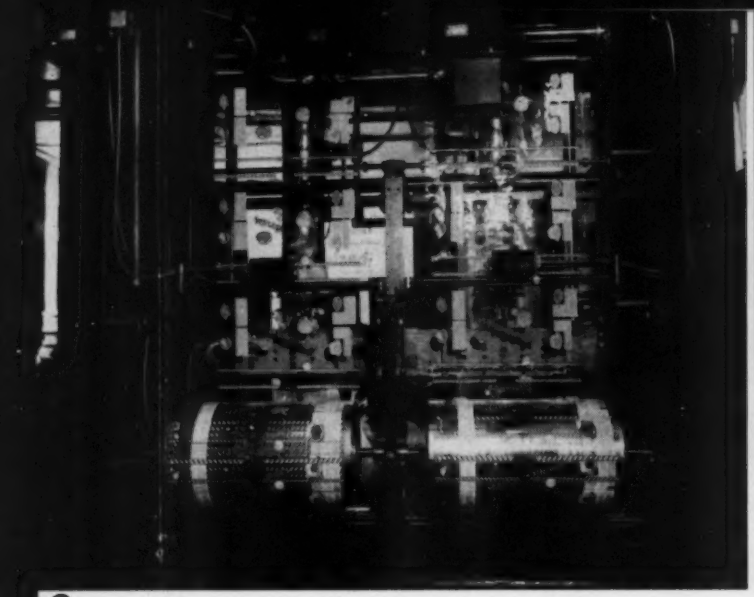
3 . . . Tra forms the m weigh

Packaging Marshmallows at

Candyland INC.

This article describes automatic packaging in cellophane bags. Though the particular product described happens to be marshmallow, there are many types of candy products which might be adapted to this system. The main drawback for candy is the five foot drop, which eliminates the possibility of using this system for fragile candies such as hard and filled. However, most gums and jellies, and some pan work, as well as other kinds, could be packaged this way. We are sure that every candy manufacturer will find interesting material in this story.

AUTOMATIC packaging of marshmallo sealed bags is the latest attainment of Inc., Sioux City, Iowa. Focal point of the line coordination between a battery of 2 Triang Paks and a Transwrap, the latter located in —directly under the Triangle equipment. closely with its suppliers and coordinating i ing work with theirs, this company now g packaging savings: The packaging line uses stead of 18, as required by methods previ Also, Candyland management estimates a sa per cent in the cost of packaging materials, company now buys printed roll stock—instead bags. A major feature of the new packaging



3. . . Transwrap machine on the floor below. This machine forms a tube from printed cellophane roll stock before the marshmallows fall. When the bunch falls from the weighing hopper into the formed tube . . .

4. . . the tube is sealed and cut. These three machin be perfectly timed together and are operated, t with the auxillary conveying equipment, by one as a unit from this position. The finished bags a ferred to . . .

at

marshmallows in heat
ttainment of Candyland,
int of the line is the close
of 2 Triangle Elec-Tri-
er located in a basement
equipment. By working
oordinating its engineer-
mpany now gets notable
ging line uses 6 girls in-
nethods previously used.
estimates a saving of 25
ng materials, because the
stock—instead of finished
ew packaging line is that

the marshmallows themselves are not touched by any human hand. When the marshmallows leave the sanding operation, they move to a system of conveyors and hoppers connecting with the two Elec-Tri-Paks. Candyland's own technicians and machine shop developed the hopper and conveyor system used. Purpose of this hopper system is to assure a continuous and even flow of marshmallows into the 4 scales of the 2 Triangle machines. Here, the predetermined quantities of marshmallows are weighed, thus measuring the quantity that is to go in each individual bag.

Precise Controls Needed

A special problem in this packaging operation is that the Triangle equipment not only must weigh the proper quantity and discharge it, but also must make this dump or discharge at the instant that the Transwrap is ready to receive it. Thus, 2 scales of the Triangle units release their quantities of marshmallows simultaneously. (With 2 Triangle units there are 4 scales; while 2 scales are dumping, the other 2 are filling.) The discharge or dump does not take place until the Triangle equipment receives an electrical impulse from the Transwrap unit. There is a specially developed system of electronic control to provide this regulation. Also, whenever there is a stoppage on either of these units (i.e., the 2 Triangles or the Transwrap) the other unit is stopped automatically. Another problem of this phase of the packaging operation was the elimination of 'dust' (powdered sugar) from the marshmallows during their movement. To eliminate this, Candyland's technicians developed a system of blowers. By trial and error they found out the specific location for the blower equipment, as well as the precise time for withdrawing the excess sugar. Also, they had to determine how much sugar to withdraw; the excess required removal, but at the same time, each marshmallow had to have an adequate coating. Result of this experimentation is that the point of blow application is about 2 feet below the drop.

Dropping By Gravity

Use of gravity drop methods is a major f
successful marshmallow production, according t
land Management. However, the use of gravit
several distinct problems, such as in the mov
marshmallows from the Triangle equipment to t
wrap. This entails a 5 foot drop. Aside from
on the timing of the equipment, the drop a
plicated the problem of excess sugar removal
for doing this removal job about 2 feet from th
that the velocity is not as great at that point,
down. The plant engineers found that too gr
locity (of the moving marshmallows) resulte
marshmallows taking the excess powdered su
them—even though they had passed the blow
ment.

Marshmallow in Transwrap

Several obstacles appeared in course of wo
marshmallows to pack satisfactorily with a T
type of machine. A major problem is the dust
powdered sugar, getting into the heat seali
When this takes place, the result is an unsa
seal. It simply does not hold. To attain a mo
totally dustless filling operation, Candyland
the blower system described above. Another pro
that of the knives. During early experimentatio
mallows or marshmallow material got on the kni
and in effect, cooked there. Also, the knives wer
an evolution in design, in course of which a 'fly
unit was developed for this machine. This
re-design of the knife assembly. Result is that,
the knife moves with the package while makin
The roll stock used for the Candyland package
sealing cellophane, the largest size that a T
handles. Mr. Cohen points out that his compa
mented with a wide variety of films, except th
ously too expensive for this particular packa

three machines must
e operated, together
ment, by one person
shed bags are trans-

is a major feature of
on, according to Candy-
use of gravity created
as in the movement of
equipment to the Trans-
p. Aside from its effect
t, the drop also com-
sugar removal. Reason
2 feet from the drop is
at that point, as further
d that too great a ve-
allows) resulted in the
s powdered sugar with
assed the blower equip-

ap

course of work to get
orily with a Transwrap
em is the dust, i.e., the
the heat sealing areas.
ult is an unsatisfactory
o attain a more or less
, Candyland developed
ve. Another problem was
experimentation, marsh-
l got on the knife blades,
the knives went through
of which a 'flying knife'
achine. This entailed a
Result is that, in effect,
e while making the cut.
dyland packages is heat-
size that a Transwrap
hat his company experi-
films, except those obvi-
articular package; "We

5 . . . this elevating conveyor which takes the bags up to the first floor for packing and shipping. This girl inspects all of the bags as a precautionary measure.

6 These are the finished bags produced by the unique packaging system.

Photos courtesy of Packaging Parade.

found that the 'simple', heat sealing film works as well as the so-called 'premium' cellophanes," he asserted.

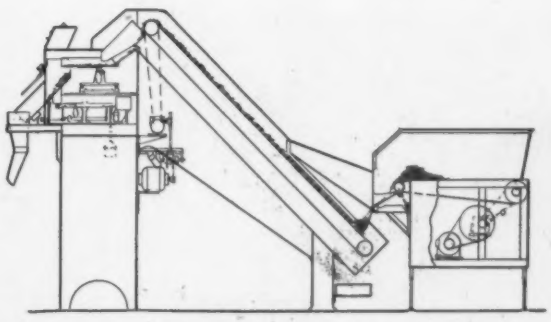
Forming, Handling Packages

Thus, on each side of the Transwrap, the roll stock is positioned and is fed around the folding shoulder. Next, the machine makes the vertical seal, thus forming a continuous tube from which individual bags are formed. Then, there is close coordination of filling, sealing and cutting. From here, the sealed bags move from the machine via the discharge chutes. First, they pass to a conveyor carrying them to an inclined conveyor. This takes the packages from the basement to the first floor, where they move to the case loading station. Prior to this point, the packaging line used only 2 girls: One inspects marshmallows before they pass to the Triangle equipment, and the other is the operator of the Transwrap machine. After the sealed bags reach the first floor, they pass a third girl, who inspects all packages. Then, there are 2 girls who load the cases, and the sixth and last girl on the line attends the unit which staples the loaded cases. Because this equipment staples top and bottom flaps, there is no taping or stitching of cases; these merely are opened and placed on the line. The 2 girls at the loading station simply fill the cases and slide them to the stapling machine attendant.

As the filled cases reach the attendant, she closes the top flaps and pushes the case through the machine. As she does so, she actuates the stapling unit with the foot pedal. Before stapling starts, the machine automatically centers each case. A floating roller energizes the centering arms, which center the case and in effect compresses its sides by pulling in the flaps. After the attendant depresses her control pedal, stapling is automatic. As each case is stapled, it passes to a roller conveyor, and succeeds to pallets or skids for transfer to storage, prior to shipment. Ordinarily, cases leave the Candyland plant on the same day in which marshmallows contained are manufactured and packaged.

Details of Packaging

The speed of the line depends on the size of package being handled. It runs at 48 bags a minute for one-pound bags and at 55 to 60 bags a minute for those of 10-ounce capacity. These bags are made from roll stock printed and furnished by Milprint, Inc., Milwaukee, and by Crystal Tube Corporation, Chicago, and are of Du Pont cellophane. Machinery on which the marshmallows are weighed and packaged is furnished by Triangle Package Machinery Company, Chicago, and by Transparent-Wrap Machine Corporation, Hasbrouck Heights, New Jersey. Cases, which are furnished by Container Corporation of America, Sioux City, Iowa, are stapled on equipment furnished by International Staple and Machine Company, Herrin, Illinois. The conveyors used throughout the plant are products of the machine shop of Candyland itself.



How an Elec-Tri-Pak operates. Material is fed from a hopper to elevating conveyors which feed trays. These trays gently vibrate the material into weigh buckets, which dump when the correct weight of material is reached.

Good Ideas PULL WITH NASHUA PRINTED WRAPS

Put more power in your package. A good merchandising idea, a good product deserves the selling power of Nashua Printed Wraps.

Frank H. Fleer's new Home Pack Dubble Gum is really full of ideas — four color comics, two color wax wrappers, and a colorful cellophane over wrap — supplied by Nashua.

You can put Nashua's experience in designing, printing and converting packaging materials to work for you. Write today or call Nashua 1000.

NASHUA CORPORATION

NASHUA, NEW HAMPSHIRE

NASHUA

Everything in Flexible Packaging that Sells

DESIGN / PRODUCTION

PRINTED FILM • WAXED WRAPPERS • BOX PAPERS • BOX STAYS • GUMMED PAPERS • HEAT SEAL PAPERS • FLOCKED PRODUCTS • PARTY PAPERS • PRINTED BANDS • CORRUGATOR'S TAPE • SEALING TAPE • MOISTENING MACHINES • TECHNICAL PAPER PRODUCTS

PROTECTED by Riegel

SPECIAL GLOSSY, WHITE GLASSINES . . . HIGHLY GREASE PROOF . . . USED AS AN INNER WRAP FOR CHOCOLATE BARS

More than 600 Riegel Papers are now proving their value for many of the nation's best-selling brands. It is the greatest variety of packaging papers available from any one source.

Somewhere among this wide selection you may find a better or more economical paper to protect your product. If we don't have just what you want, we can usually "tailor-make" a new paper to your specifications.

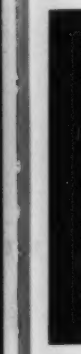
Write us now and tell us what you want paper to do for you. Riegel Paper Corporation, P. O. Box 170, Grand Central Station, New York 17, N. Y.

Tailor-made Packaging Papers

Riegel

GLASSINES AND GREASEPROOFS

Plain • Waxed • Printed • Lacquer-Coated • Laminated



Supply Field News

Mr. Emery J. Stevenson, president, at the White-Stokes open house, with John W. Lawrence, regional vice-president left, and Mr. Charles A. Dillon, regional vice-president at the right.

White-Stokes Company, Chicago, held an open house to show the recently renovated factory building. Many guests and friends were present, and were warmly welcome by **Mr. Emery J. Stevenson,** president of White-Stokes.

The Hobart J. Thurber Co., Chicago, Ill., food brokerage firm serving the confectionery industry, has announced that the company offices have moved

Small window cartons inside 24 count display cartons complete attractive packaging for Hydid Candy, made by the National Licorice Company. The lower section of the yellow and dark blue large carton is designed to serve as a counter display when the lid is removed, while the inside cartons of the same colors reveal the confection through wedge-shaped windows. Packaging created by Milprint, Inc. of Milwaukee, Wis.

AVOID THE CHRISTMAS RUSH BY SENDING FOR HOLIDAY BROCHURE OF BOX STYLES AND PRICES

COOPER

PAPER BOX CORPORATION

DEPT. M BUFFALO 4, NEW YORK

Package your product in an I. D. Reuse Decorated Container

EYE APPEAL!

FASTER SALES!

MORE PROFIT!

ARABESQUE TRUNK

Embossed decorated surface of traditional old Asian design is breathtakingly beautiful. Hinged lid and ornamental drop handle.

Packed 36 to a carton. Three wavey parchment layer boards, one lid insert and one sleeve supplied free.

Inside dimensions: 5½" x 4½" x 3¼".

Another English Artware Creation!

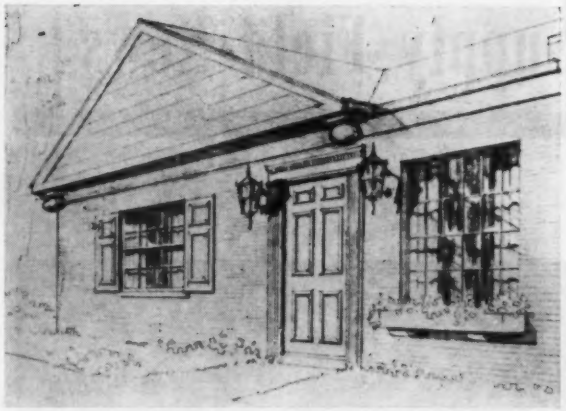
(Canadian orders shipped from Montreal warehouse).

Full Color Brochures Available on Request.

I. D. COMPANY

Decorated-Embossed Containers and Metalware

150 SPRING STREET, NEW YORK 12, N. Y.



to the New Thurber building at 2516 West Peterson Avenue, Chicago 45, Ill. The Thurber Company, founded by **Hobart J. Thurber, Sr.,** in January, 1933. Today, the Thurber Company represents the following raw ingredient firms: Blumenthal Bros. Chocolate Company; Durkee Famous Foods; and C. M. Pitt and Sons Company among others.

Givaudan Flavors, Inc. of New York has just published a four-page technical bulletin 53-3 entitled "Flavors for Confections". It contains basic information on candy making, and lists specific flavors recommended for use in Hard Candies; Covered Fondants, Cream Centers and Fudge; and Pectin Jellies and other Gum Candies. Copies are available from Givaudan Flavors, Inc., 330 West 42nd Street, New York 36, N. Y.

Ross & Rowe, Inc., lecithin distributors, announce the election of **Oscar M. Stout** as Treasurer of the company to succeed **E. J. McAuley.** Mr. Stout has been with the company fifteen years.

Ambrosia Chocolate Company has named **L. Russell Cook** as Executive Vice President of the company. Mr. Cook joined the Ambrosia organization as Technical Director in 1950 and shortly thereafter was appointed Sales Manager. He brings to his new post twenty years experience working directly in the Chocolate and Cocoa field and with industries related.

Sidney M. Cantor, Ph. D. announces the opening of Sidney M. Cantor Associates, consulting chemists, 1717 Spruce Street, Philadelphia 3, Pa. Dr. Cantor was formerly director of research of the American Sugar Refining Co.

Florasynth Laboratories, Inc. has recently developed a replacement for coumarin called PROTOVANOL "C". This new ingredient is claimed to be fully soluble in alcohol, propylene, and to an extent in vegetable oils. It can be mixed in various dry bases and absorbed in cane sugar, corn sugar or starch.

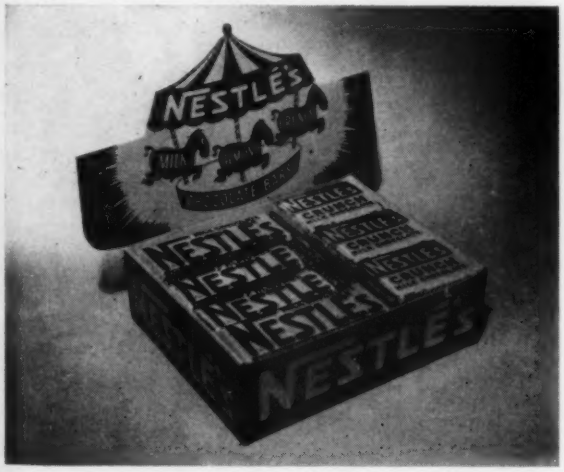
Chas. Pfizer & Co., Inc. appointed **Marshal N. de Noyelles** as manager and **Frank Black** as assistant manager of their Chemical Sales Division. Mr. de Noyelles has been associated with Pfizer since 1916, except for a period of Army service during

World War I. Mr. Black joined Pfizer in 1945 as an assistant regional sales manager.

The Dow Chemical Company announced the appointment of **B. T. Bush, Jr.** to handle aromatic sales with the Fine Chemical Sales section to headquarter in Midland, Michigan. His three year post as head of the company's Aromatics Laboratory in Jersey City, N. J. is to be succeeded by **John Hancock.** Both Bush and Hancock are well known in the aromatics field and with increased personnel in Midland and Jersey City labs, the Dow company is offering expanded service in the field of industrial odor correctives.

The Department of Commerce reports that the use of aluminum foil for packaging appears headed for record volume this year. Since the lifting of defense allocation controls a year ago there has been a steady upward climb in use of this material. Capacity for 1954 is expected to be nearly 200,000,000 pounds, twice that of a year ago. The survey indicated the food specialties were a major field of expanded use. Sales increases were noted with adoption of foil labels, and it was generally found that new or choice-quality products sold better in aluminum packaging.

Milprint, Inc., of Milwaukee, Wis. has added a new Belgian and a new English firm to its "family" of foreign firms. In welcoming the two new overseas members, **William Heller, Sr.,** chairman of the board, said that more countries will be added to the Millprint affiliate list in the near future. Already affiliated with Milprint as licensees are companies in Canada, Cuba, Venezuela, Italy, Japan and Germany.



The Nestle Company, Inc. is using a new display carton in place of the corrugated container formerly used. It is made of stronger material with a better printing surface permitting the use of gloss inks. The carton is printed red and blue in carousel design on a white board. The cover of the carton folds back to form a cut-out of the carousel making an attractive display. Designed and made by the Thames River, Conn., division of Robert Gair Co., Inc., New York.

Speed Makes The Difference!

450 CARAMELS CUT and WRAPPED EVERY MINUTE

with **IDEAL HI-SPEED WRAPPING MACHINE**

Speed that's always dependable—Safety that can be counted on—maximum production at least cost—that's the Ideal Special Caramel Wrapping Machine!

Only 2 personnel required for this entirely automatic operation.

Write today for FREE Brochures.

Established 1906

IDEAL WRAPPING MACHINE COMPANY

MIDDLETOWN NEW YORK U. S. A.

GAIR

NEIGHBORHOOD SERVICE

Always comes through with Flying Colors!

For many years Gair Neighborhood Plants have extended close cooperation with manufacturers whose famous products are shipped to market with the protection of Gair Corrugated and Solid Fibre Shipping Containers.

ROBERT GAIR COMPANY, INC.

155 E. 44th St., New York • Toronto

PAPERBOARD • FOLDING CARTONS • SHIPPING CONTAINERS

FIBRE BOARD CONTAINER CORP.
MARTINSVILLE VA.
CAMBRIDGE MASS.
PORTLAND CONN.
NORTH TONAWANDA N.Y.
HOLYOKE MASS.
BOGOTA N.J.
FIBRE BOARD CONTAINER CORP.
RICHMOND VA.
CLEVELAND OHIO
PHILADELPHIA PA.
SYRACUSE N.Y.
PETERBORO N.H.

Do You Have Heart Trouble?
Heart boxes available in the following sizes:
2 oz. ¾ lb.
4 oz. 1 lb.
½ lb. 2 lb.
Write for detailed information
To My Valentine
Apex PAPER BOX CORPORATION
319 W. Superior St., Chicago 10, Ill.
ALLAN HUMASON
HEART SPECIALIST

DREW HOLDS SEMINAR IN CANADA

Billed as the "First Annual Canadian Conference On Compound Coatings", **E. F. Drew & Co., Ltd. of Canada** held an all-day seminar for interested Canadian manufacturers of confectionery and biscuits at the King Edward Hotel in Toronto last May. Featured speakers were Drew personnel and representatives of technical firms that have worked with Drew on compound coatings. The meeting was well attended with some 28 manufacturers represented.

Among the papers presented were: "Technical Aspects Of Compound Coatings-Composition" by Dr. Hugh Lawford of Consumers Research Laboratories Ltd., "Some Observations on The Technology of Fats" by Dr. George Barsky, Drew Research Director, "Manufacture of Coatings—Present and Newer Methods" by Justin Alikonas of The Al-Chem Laboratory, "Technical Aspects of Compound Coatings-Structure" by E. E. Wood of Consumers Research Laboratories Ltd., "Practical Aspects of Handling Enrober Coatings" and "Summer Coatings—Colored and Chocolate Types", both by Justin Alikonas.

Among the Canadian manufacturers represented were: from Toronto: Barker's, Christie-Brown, Hunt's, Joe Lowe, Neilson's, Rowntree, Patterson, Van Kirk, George Weston and Willard Chocolates; from Montreal: David & Frere, Fry-Cadbury, Lowney's, St. Lawrence Candy, Vaillancourt, Viau Biscuits; from Kitchener: Dare Biscuits and Smiles 'N Chuckles; Independent Biscuit from Calgary; Moirs from Halifax; McCormick's from London; Pauline Chambers from Winnipeg; Weston's from Edmonton and Longueuil, and Windsor Wafers from Hamilton.

President Eisenhower issued a proclamation limiting the importation of shelled filberts, during the marketing year for the 1952 domestic crop, to 4,500,000 pounds. This period covers the months of October 1952 to September 1953. During the months Oct. 1952 to April 1953, on the basis of preliminary statistics, importations amounted to 2,837,985 pounds. On the basis of these figures, the effect of this proclamation is to provide that imports during the months, May to September of this year may not exceed 1,662,025 pounds.

Norris Candy Company is introducing a new design for their old favorite, Variety Box Chocolates. The color scheme is pistachio and raspberry, and the design, termed "just perfect" by **Mrs. R. L. Henderson,** vice president of Norris, was developed by several experts to capture Norris classical look with stylized drawings and baroque touches. A feature of Norris chocolate that is being stressed is the process termed "Norris-ized" which is said to involve homogenization of the coating. Five other new packages have also been added to the line, Peachtree Chocolates, Rough Dipped Milk Chocolates, Chocolate Covered Thin Mints, Butter Creams and Nancy Norris Candy Shop Chocolates.

• **Milprint, Inc.,** won an award of merit for their advertising in the nation-wide Associated Business Publications contest for effective business paper advertising. The award, accepted for Milprint by Roy W. Lundberg, praised the firm for its "particularly effective use of color and copy". These advertisements are produced by Milprint in its own plant. The annual ABP competition is sponsored by over 100 business publications including THE MANUACTURING CONFECTIONER working cooperatively to improve further the service of business papers to their readers, and to help advertisers use the business press more effectively.

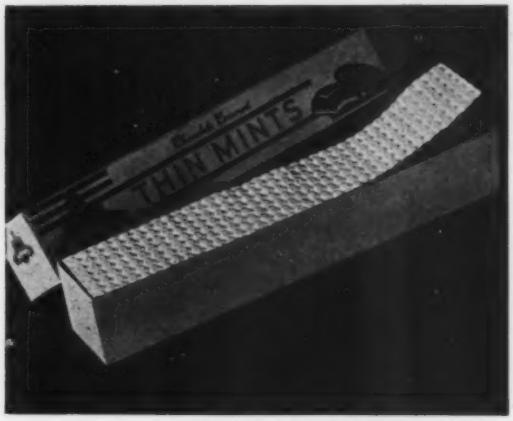
• **The Mexican Cacao Crop** promises to be very good. About 8,600 metric tons are expected, which compares with about 8,500 tons each year for the preceeding three years. Exports in 1952 amounted to 1,866 tons.

The Chicago Candy Production Club held its 18th annual outing on the Clinton Foods houseboat "Idler" last month. Forty members and guests enjoyed 3 days of golf, fishing and relaxation on a beautiful weekend on Ole Miss. The event was saddened by the retirement of **Walter Krafft** who is moving to Florida. A 22-year member of the club, Mr. Krafft received, in true spirit of comradeship, a beautiful desk set as a going away present.

The Chunky Chocolate Corp. is now displaying their Sugar Toasted Peanuts in a specially designed box. The new box bears a striking resemblance to the display box in which the famous Chunky Chocolate bars are displayed.

For Maximum Protection at Lowest Cost

Use SWEETONE Decopad



The most widely used candy padding in the United States. We maintain a special converting department to emboss, cut and die cut our paddings to your requirements.

Write Today **for a new folder containing actual samples of our complete line of Sweetone Paper Products for manufacturing confectioners including:**

Shredded Papers	Chocolate Dividers
Waxed Papers	Boat & Tray Rolls
Wavee Parchment	Layer Boards
Embossed Papers	Die Cut Liners

Candy Box Paddings

George H. Sweetnam, Inc.

282-286 Portland Street, Cambridge, Mass.

SWEETONE PAPER PRODUCTS

Representatives in Philadelphia, Detroit, St. Louis, Chicago, Dallas, New Orleans, Los Angeles and Portland, Oregon.

Association News

The **Philadelphia group of American Association of Candy Technologists** announces its Sanitation Seminar to be held September 15 at the Penn Sheraton Hotel, Philadelphia. The registration begins at 8:00 a.m. with the call to order at 9:00 a.m., after which the following topics will be presented: "Determination of Extraneous Materials, Methods and Principles" and "Laboratory Equipment and its Uses" both by **Dr. Charles A. Wood,** Chief Chemist for Food & Drug Administration; "Standards in Foods with Special Reference to Nut Meats and Dried Fruits" by **Eugene J. Gerberg** of Insect Control & Research, Inc., Baltimore, Md. and "Limitations of Use of Insecticides in the Food Plant" by **Harry B. Holmes** of Arvan Laboratories, Philadelphia. At 12:00 noon the seminar will adjourn for luncheon and greetings from **Otto J. Glaser,** president of Dairy Maid Confectionery Co. and **A. Rodney Murray** of Minter Bros.

The afternoon session begins at 1:30 and the following topics will be offered for discussion: "Proper Inspection and Use of Outside Services in the Candy Plant" by **Gerald S. Doolin,** Sanitation Director, NCA, Chicago; "Life Cycle of Insects and Control" by **Dr. Ray R. Kriner,** Dow Chemical Co., New Cumberland, Pa.; "Cleaning Materials" by **Edward Hoffman,** Superior Chemical Products, Philadelphia; and "Cleaning Equipment, Methods; Housekeeping and Storage" by **Sam Goldstein** of Loft Candy Corp., Long Island, N. Y. The afternoon session adjourns at 5:00 and will assemble at 6:00 for dinner and addresses entitled "Cooperation Results in Improved Quality" by **Robert C. Stanfill,** Chief, Phila. District, Food & Drug Administration and "Food Laws and Their Relation to the Candy Industry" by **William S. Hagar,** Deputy Secy. of Agriculture, Commonwealth of Pennsylvania. A registration fee of $10 includes Luncheon, Dinner and Tips. Cards of admission and advance registration may be obtained from **Fred B. Jacobson,** Stephen F. Whitman & Son, Inc., 415 Race St., Phila. 5, Pa. or **Hans F. Dresel,** Felton Chemical Co., Inc., #15 Lombard St., Phila. 47.

The **Pennsylvania Manufacturing Confectioners' Association** held its 42nd Annual Meeting at Galen Hall and elected the following officers: President: **C. S. Grube,** Wilbur-Suchard Chocolate Co., 1st V-Pres.: **Otto J. Glaser,** Dairy Maid Confectionery Co., 2nd V-Pres.: **I. Harry Goldenberg,** Goldenberg Candy Co., 3rd V-Pres.: **C. G. Bortzfield,** Keppel's Inc.,

BAGS HEADER-LABELED and HEAT SEALED

Hi-Speed
AUTOMATIC JAW BAG SEALING MACHINE with AUTOMATIC VACUUM LABELER

The most widely used automatic header label sealer . . . *for no other machine combines these essential features:*

- Positive label feed
- Quick, simple label changeover
- Wide range of label sizes, shapes and materials
- Seals ALL types of heat sealable bag material
- Positive and dependable hole punching.

AMSCO
PACKAGING MACHINERY, INC.
31-31 48th Avenue Long Island City 1, N. Y.
Specialists in Diversified Packaging Equipment.

D
D
!

eed
BAG
with
ELER

NC.
. Y.

IONER

Continued from page 35

coded samples numerically according to the following table:

Odor	*Rating*
Essentially none (pleasant)	1
Slight but not objectionable (neutral)	2
Moderate objectionable (unpleasant)	3
Strong (offensive)	4

Intermediate ratings, e.g., 2.5, may be made where increased sensitivity is possible.

Note: The decision between "slight" or "not objectionable" and "moderate" or "objectionable" will obviously depend upon the product tested, the functional requirements, and the experience of the test panel. The objectionable odor level must be *remembered*, with some help from standard samples.

The individual ratings shall be tabulated and if possible averaged. The exact procedure followed shall be recorded.

C. *Taste as Odor Index*. The same reporting system shall be used on samples under Procedure III B to III E, inclusive.

Note: After all the test results are in, it is usually desirable to review individual reports in a group meeting, for educational purposes.

Reproducibility

If the average rating is over the previously agreed rejection point (generally 2), make a check test, preferably using different test panel members.

Additional Information

This method was developed in cooperation with a committee of the Packaging Institute.

See page 50 for a table of detection Methods for various packaging material.

References

1. McCord, C. P., and Witheridge, W. N., "Odors, Physiology and Control," McGraw-Hill, 1949.
2. Sjostrom, L. B., "Paper Package Odors," *Modern Packaging* 23, No. 12: 118-120 (Aug., 1950).
3. Dawson, Elsie H., and Harris, Betsy L., "Sensory Methods for Measuring Differences in Food Quality," Agriculture Information Bulletin No. 34, Washington, D. C., U. S. Government Printing Office, 1951.
4. Cartwright, L. C., Snell, C. T., and Kelley, P. H., "Organoleptic Panel Testing as a Research Tool," *Anal. Chem.* 24, No. 3: 503-506 (Mar., 1952).
5. Cartwright, L. C., and Kelley, P. H., "Organoleptic Evaluation of Paper Products for Food Packaging," *Tappi* 35, No. 7: 306-309 (July, 1952); *Modern Packaging* 25, No. 11: 145-147, 201-202 (July, 1952).
6. Crocker, Ernest C., "The Nature of Odor," *Tappi* 35, No. 7: 169A-175A (Sept., 1952).

Better see H&D!
Heide
CHOCOLATE
FLAVOR
BABIES
Quality
This Highly-Dependable shipping box provides protection, helps assure safe arrival. To get the full story on protective packaging, request free booklet "Creative Package Engineering." Hinde & Dauch, Sandusky 12, Ohio.
our 65th year
H&D
HINDE & DAUCH
Authority on Packaging
17 MILLS AND FACTORIES • 40 SALES OFFICES

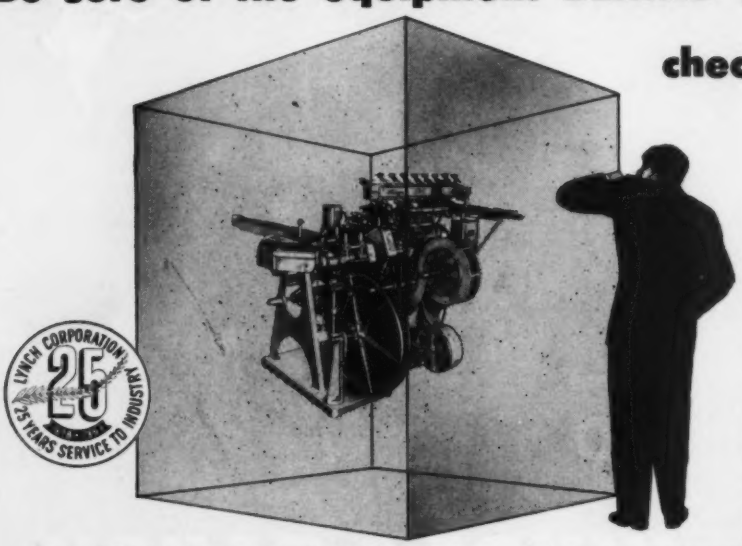
Table 1. Common Packaging Material Odors and Detection Methods

Material	*Type of Odor*	*Test method*
Synthetic film	Inherent, solvent, plasticizer	I (24 hr. at 100°F.), III A, E
Paper and board	Inherent kraft	I, II A, B
	Musty or moldy (groundwood, old news, waste)	I, II A, B (4 hr. at 100°F.)
	Chlorinated phenol (additive for slime control)	I, II C
	Sour (decomposed starch)	I, II
Paper, coated	Volatile additives, casein decomposition	I
Glassine, coated	Inherent in coating; solvent, plasticizer	I (24 hr., 100°F.), III A, E
Ink and varnish	Oxidizing oils, plasticizer, solvent	I, III C
Adhesive joints (after thorough drying)	Solvents, sour starch, added perfume	I (fresh and after 24 hr. at 100°F.)
Wax	Oil, residual oxidized solvent	I (fresh shavings at room temperature in small container), III E (cheese, for example)

CODE DATERS
NAME MARKERS
PRICERS
Gummed Tape Printers For The Candy Industry
Write for information
KIWI CODERS CORP.
3804-06 N. Clark St., Chicago 13, Ill.

Be sure of the equipment BEHIND your package

check first with LYNCH



Savings *behind* the package can make the *best* actually cost less! And savings are large, in a long list of plants, where Lynch Packaging Machinery does the job.

For many years, Lynch has set the pace for packaging efficiency. It's been done through rigid standards of manufacture . . . continuous development to add *more* speed to packaging, reduce manpower needs and cut maintenance to a minimum. These are reasons why it pays to check *first* with Lynch. An experienced Lynch man is ready to help you. Just call or write.

Wrap-O-Matic, fully automatic. Packages both conventional and irregularly shaped items at high speed. Used for packaging confections, bakery products, pencils, cigars and other products.

A WIDE RANGE OF ADDITIONAL MODELS AVAILABLE

PAR AIR COMPRESSORS
ICE CREAM SANDWICH WRAPPING MACHINES
WRAP-O-MATIC CANDY & COOKIE WRAPPING MACHINES
MORPAC PAPER PACKAGING MACHINES
MORPAC BUTTER & OLEO PACKAGING MACHINES
GLASS FORMING MACHINES

LYNCH CORPORATION
PACKAGING MACHINE DIVISION
TOLEDO, OHIO . Branches—NEW YORK CHICAGO • SAN FRANCISCO • LOS ANGELES ATLANTA • DALLAS • TORONTO

EXPORT DEPT.: 13 East 40th St., New York 16, N. Y. • Cables: ARLAB

CANDY PACKAGING

Published bi-monthly by
THE MANUFACTURING CONFECTIONER PUB. CO.
418 NO. AUSTIN BLVD.
OAK PARK, ILLINOIS

Publishers of

THE MANUFACTURING CONFECTIONER

THE CANDY BUYER'S DIRECTORY

THE CANDY PURCHASING EXECUTIVES BLUE BOOK

Publisher
P. W. Allured

Advertising Offices:
OAK PARK, ILLINOIS
Allen R. Allured
418 No. Austin Blvd.—EUclid 6-5099

New York 36, N. Y.
James W. Allured
303 W. 42nd St.—CIrcle 6-6456

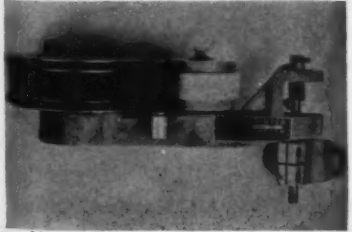
Copyright 1954, The Manufacturing Confectioner Publishing Co.

AUGUST Vol. 13, No. 4. **1953**

Treasurer: **Robert F. Keppel,** Keppel's, Inc. The Executive Committee: **David Sykes,** Chr., Plantation Chocolate Co., **Mark J. Heidelberger,** Heidelberger Confectionery Co., **A. J. Napolitan,** Buttonwood Candies, Inc., **Philip Wunderle, 3rd,** Ph. Wunderle, **F. Milton Demerath,** Plantation Chocolate Co., **Col. C. L. Supplee,** Frantz Candies, Inc. and **W. C. Thurman,** Thurman's, Inc.

The **National Confectionery Salesmen's Association of America** elected **J. W. Winter,** of Baltimore, president. Other officers named were **Abe Josephsohn** of New York, vice president; **Robert M. Kelly** of Brooklyn, secretary-treasurer, and **James F. McHugh** of New York, assistant secretary-treasurer. The latter two were re-elected.

Add the "WHIPPET" MARKER
for Conveyor Line Efficiency



Easily adaptable to your present lines—automatically marks production runs of cartons, packages, etc. Friction between Marker and moving package imprints date, code, or any other information. No oscillation of printing drum.

Inking through felt roller and self-contained reservoir—interchangeable rubber type——widely used in candy field. Send for FREE catalog.

THE INDUSTRIAL MARKING EQUIPMENT COMPANY, INC.
454 BALTIC ST. DEPT. MC BROOKLYN 17, N. Y.

WHAT'S NEW in candy packaging

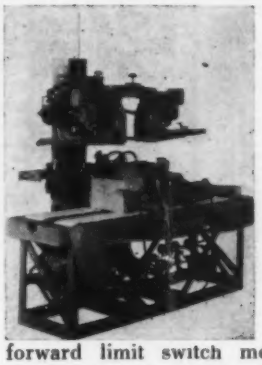
A New Packaging Material

. . . is now available which consists of layers of embossed resilient paper covered by any decorative paper desired. The entire pad is quilted, light-weight, soft, and bends easily without crushing. For free samples and price lists write: *Cushion Pack, Inc.,* 150 *Fifth Avenue, Hawthorne, New Jersey.*

"Characteristics and Uses" Cellophane Chart

. . . has just been published in revised form. The revision broadens the uses of one type cellophane for general bag use, and another type is listed for use in tropical climates. For further information write: *Market Development Dept., Sylvania Div., American Viscose Corp.,* 1617 *Pennsylvania Blvd., Philadelphia* 3, *Pa. for leaflet* 2198 1-53.

A 100% Automatic Carton-Stapling Machine



. . . for closing center-slotted corrugated or fibre cartons has been developed. This machine is air operated, and will staple from 800 to 1000 cartons an hour. It is adjustable to handle cartons from 5" to 11" high, 8" to 12" wide, and 11" to 17½" long. Two trip-switches, one for centering the carton and one for closing the flaps are employed, and a forward limit switch mounted inside stapling heads causes retraction and opening of automatic centering device. For further information write: *The International Staple & Machine Company,* 801 *Herrin Street, Herrin, Illinois.*

TOMPKINS'
★ Colorful ★ Eye-Catching ★ Sales-Building
Candy LABELS
OF ALL KINDS

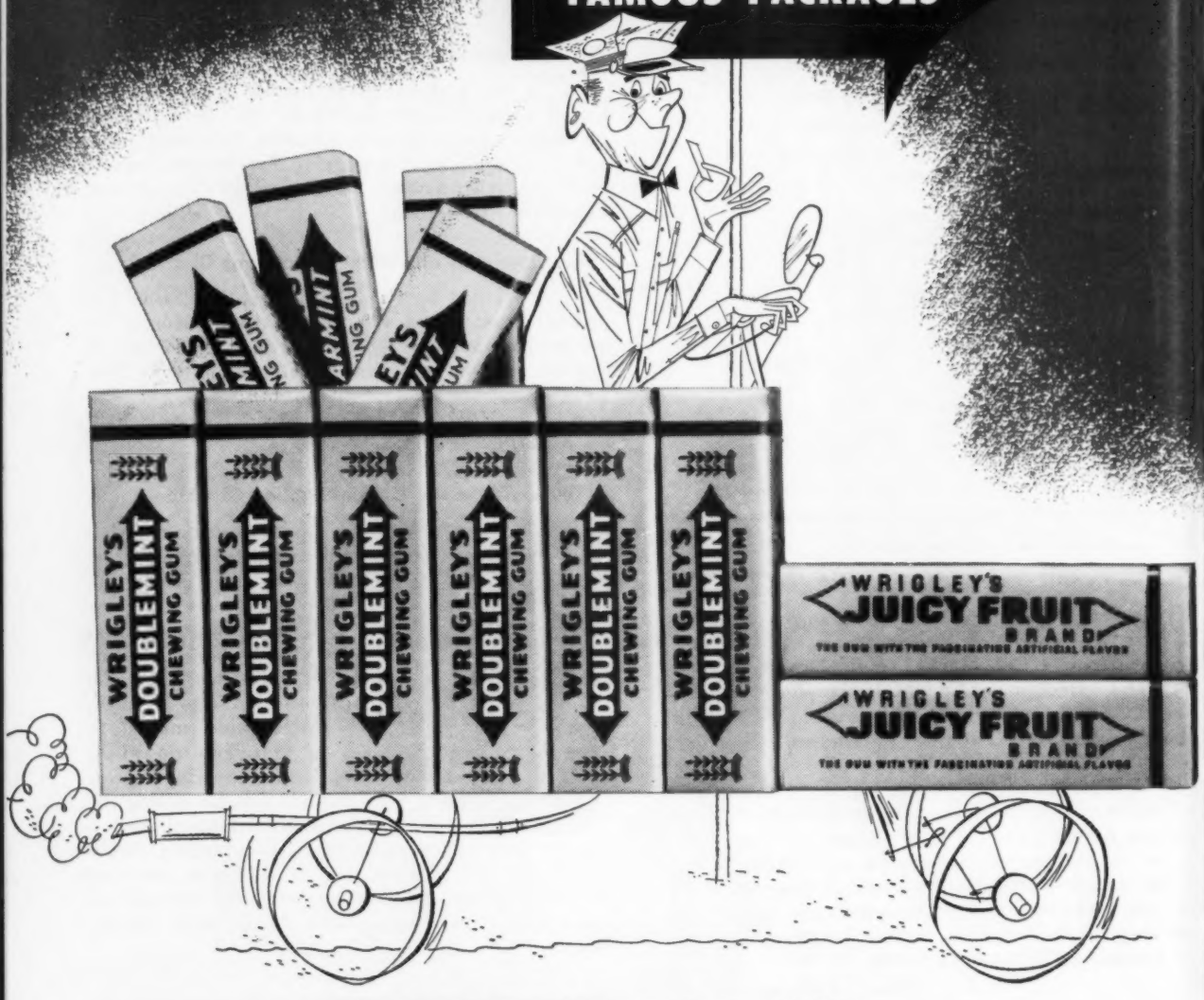
DIE CUT · SQUARE-CUT · ROLL · BAG TOP · ENGRAVED · TYPE · FOIL · MULTI-COLOR · GUMMED · HEAT SEAL · POLYSTIX · THERMOPLASTIC · DELAYED ACTION · UNGUMMED · GREASEPROOF · ETC
Our COMPLETE LABEL ORGANIZATION is at your service

MAIL TODAY - NO OBLIGATION
FOR COMPLETE INFORMATION
☐ Send samples of Sales-Building Candy Labels.
☐ Submit Sales-Building design for our Candy. (attach label or copy)
☐ Quote on _____ M labels as per attach samples.
Name _____
Address _____
City _____
Zone _____ State _____

TOMPKINS' LABEL SERVICE
Dept. K4 Frankford Ave. at Allegheny Ave
Philadelphia 34, Pa.
Seal-Label

recognized everywhere...

FAMOUS BRAND
FAMOUS PACKAGES

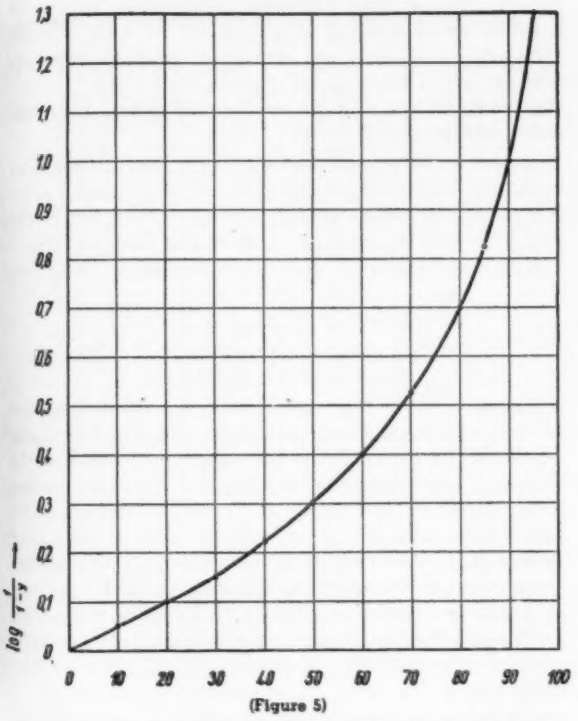


Millions know these famous packages on sight . . .
millions buy popular Wrigley's Chewing Gum at retail counters everywhere.
Here is a quality product in quality flexible packages expertly printed by Shellmar.
In Cellophane, Pliofilm, Polyethylene, Foil, or Liquid Film—simple or
full-color printing—you'll find the best answer to your packaging problems at Shellmar.
Call in a Shellmar Packaging Counselor—he will be glad to help.

Shellmar
the mark of "Successful Package Creations"

Shellmar Products Corporation, Mt. Vernon, Ohio
Plants: Mt. Vernon and Zanesville, Ohio • South Gate, Calif. • Columbus, Ga.
Mexico City • Medellin, Colombia • Sao Paulo, Brazil

Continued from page 24



(Figure 5)

inversion in the cooker, if the inverted sugar solution is not neutralized. Preinversion follows the relation

$$t_1 = \frac{1}{K_1} \log \frac{1}{1-y_1} \qquad (9.1)$$

and post-inversion a similar one:

$$t_2 = \frac{1}{K_2} \log \frac{1}{1-y_2} \qquad (9.2)$$

As a rule t_2 is fixed by the rate of flow of the syrup pump. Also given are the cooking temperature, as well as the pH-value of the sugar solution in the cooking machine and thus also K_2. From Eq. (9.2) y_2 is obtained. If the desired fraction of inverted sugar in the final product is called y, the preinversion will follow the relation

$$y_1 = \frac{y-y_2}{1-y_2} \qquad (10)$$

Inserting y_1 in Eq. (9.1), the right time for the preinversion is found for the chosen conditions (temperature, pH-value).

Tables 7 and 8 contain examples of two large-scale tests conducted in a candy factory.

Table 8

Given: the data of continuous cooker.
Desired: inversion degree of approximately 20%.
To be calculated: the data for the preinversion.

	DM (%)	pH	Temp. (°C)	Time (min)	Inversion const.	Inversion degree calculated	Inversion degree observed
Preinversion (with cream of tartar)	76	3.85	101	40	3.6×10^{-3}f.HCl $=1.6\times10^{-3}$f. cream of tartar	$y_1=12.8\%$	
Cooking machine		3.85	123	2.7	3.1×10^{-3}f.HCl $=1.38\times10^{-3}$f. cream of tartar	$y_2=7.47\%$ of 87.2% $=6.50\%$ of 100% $y_1+y_2=19.3\%$	12.7% 19.35%

Table 7

Given: Data of continuous vacuum cooker—Acid to be added—corn sirup to be added
Calculated: Expected yield of reducing sugar.

	Losses by evaporation (%)	Dry matter (%)	pH-value	Temp. (°C)	Time (min)	Degree of Inversion, total (%)	Inversion, sugar in terms of DM (%)	Inverted+reducing sugar (%)	Theoret. Calculation: Inversion const. K	Theoret. Calculation: Partial inversion degree %
Initial solution: 100 kg sugar, 32 l water		75.8	7.1							
Preinversion I: (addition of 25g. 80% formic acid)	1.5	77.2	3.45	109	3	9.6	10.04	10.04	2.5×10^{-2} for HCl = 1.45×10^{-2} for HCOOH	9.6
Addition of 20 kg corn syrup (DM 82.5; pH 5.2; red. subst. 31.62)		78.3	3.70			9.6	8.64	8.64 5.42 14.06		
Preinversion II:	1.4	79.8	3.70	95	11	13.58	12.20	17.62	3.4×10^{-3} for HCl = 1.97×10^{-3} for HCOOH	(4.4% of 90.4) 4.0% of 100%
Cooking process: (Post-inversion)		98—100	3.70	109	1 min. 40 sec.	14.60	13.15	18.58	7.3×10^{-3} for HCl = 4.2×10^{-3} for HCOOH	(1.16% of 86.4) 1% of 100% Together, 14.6%

DM = dry matter

The examples given show that the preinversion going on in the melting pan and kettle gives rise to uncertainties when melting and storing are not clearly defined as to temperature constancy and period of inversion. Interruptions and breaks in the continuity of the manufacturing process cannot be entirely avoided. They will cause excess inversion when a part of the machinery treats batches and another part (the automatic continuous vacuum cooker) works continuously. The least that can be done is to add the acid continuously after the syrup has left the melting pan at the same rate in which the syrup passes on to the boiler. This procedure is very feasible and easily effected.

Storing of hard candy

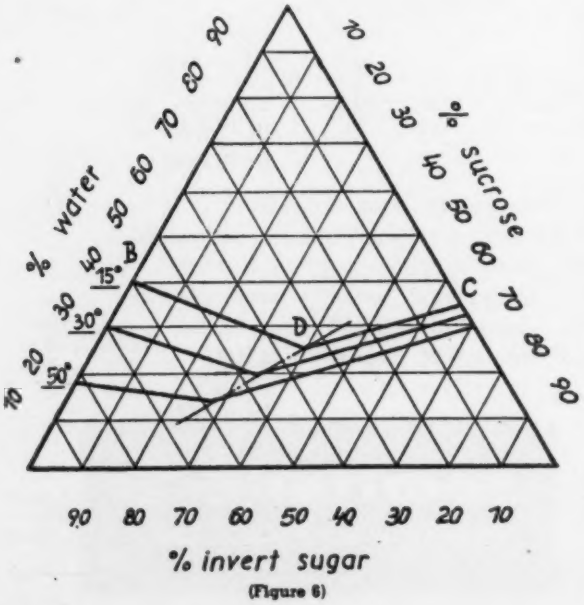
It is still doubtful whether there is a post-inversion during the storage of hard candies. There is none with acid candies, as long as there is no saturated solution present at the surface of the candies. But as soon as the surface has become moist, which usually happens when the relative humidity exceeds 30% to 35%, the post-inversion in the acid candies can progress rapidly. At 15°C the invert sugar proportion in this top layer increases theoretically by 5% within 3 days at pH 2.5, within 14 days at pH 3, within 140 days at pH 4.

This is very important in regard to the practice of adding acid to hard candies after processing in order to produce an acid flavor. *Th. Paul* (9) determined the threshold values of various acids (see Table 9).

Table 9

Threshold values of various acids and pH value.

pH 3.0 ..... 3.5 ..... 4.0 ..... 4.5
Hydrochloric acid
Malic acid Lactic Acid Citric acid
Tartaric acid Formic acid
Acetic acid Propionic acid Succinic acid
Butyric acid
Cream of tarter
Carbon dioxide



(Figure 6)

Cream of tartar may be classified as the most satisfactory acid flavoring substance besides CO_2, because it provides an acid flavor at a pH-value of 4.25, a value completely safe from the standpoint of post-inversion, whereas with citric acid pH 3 is required.

Conclusions for the processing of jams, marmalade, and artificial honey

Owing to the partial inversion of a sucrose solution solubility conditions are changed. Fig. 6 shows the solubility diagram of the ternary system sucrose — invert sugar — water drawn up by *Jackson* and *Silsbee* (10).

Solubility diagram of the system sucrose — invert — sugar — water

B = Solution of pure invert sugar
C = Solution of pure sucrose
D = Mixture of max. solubility

Partial inversion of sucrose also occurs during the cooking of jams and marmalades. Its extent is dependent on the pH of the fruit and the duration of cooking. At the usual pH-values between 3.6 and 3.8 and a cooking time in open kettles from 20 to 35 minutes there is to be expected an inversion of from 35 to 55% of the sugar added. If no inversion would take place, crystallization would occur at a temperature below 30°C (85°F) as soon as the surface layer has dried up to 70% dry matter. At maximum solubility crystallization will set in below 10°C (50°F) at 70% D.M. and below 23°C (75°F) at 75% D.M.

For the preparation of liquid artificial honey a ratio of 34% sucrose to 45% invert sugar (21% water) is to be recommended, because the total solubility at 30°C (85°F) is highest. However, German food laws (11) limit sucrose content to 30%. With solid artificial honey the tendency to crystallize increases with the degree of inversion, since then supersaturation with glucose is at a maximum. It is probably the increasing fructose content which improves the spreadability. There is no doubt that inversion must proceed beyond the range of maximum solubility, because otherwise sucrose, instead of invert sugar, would crystallize as is the case with fondants.

Neutralization

There is still considerable doubt in the confectionery industry about the amount of pH variation in the neutralization of invert sugar. Therefore the titration curves for several of the commoner acids with sodium bicarbonate and sodium hydroxide have been determined.

When using sodium hydroxide or sodium carbonate for neutralization it is imperative to use a pH-meter. It is preferable to neutralize with sodium bicarbonate. It is customary, in order to prevent discoloring, to add sodium bicarbonate sufficient for a pH of between 5 and 6. This can be done by calculating the stoicheiometric amount. Exceeding this value by 100% gives a pH of 7. For still higher amounts the pH-value slowly approaches the value 8.15.

Table 10 gives the stoicheiometric amounts of sodium bicarbonate required for neutralizing of 1 g. of various acids.

The corresponding nH values are contained in Fig. 7a and 7b.

If the stoicheiometric amount required for neutralization is greatly exceeded, there is some danger of browning and caramelization during cooking.

Table 10

Amount of $NaHCO_3$ required for neutralization of 1 g of various acids

For: 1 g. HCl, d. = 1.19	38.32%	0.882 g	$NaHCO_3$
1 g. H_2SO_4, d. = 1.84	98.00%	1.68 g	"
1 g. CH_3COOH glacial acetic acid	96.00%	1.345 g	"
1 g. HCOOH, formic acid	85.00%	1.55 g	"
1 g. H_3PO_4, ortho-phosphoric acid,	85.00%	1.46 g	"
1 g. $(COOH)_2 \times 2H_2O$, oxalic acid, crystal		1.333 g	"
1 g. Citric acid, cryst. x1 H_2O		0.8 g	"
1 g. Tartaric acid, cryst.		1.12 g	"
1 g. Lactic acid, d.= 1.24 90% total acid, 66% free acid		0.616 g	"
1 g. Cream of tartar, cryst.		0.4465g	"

The corresponding pH values are contained in Figs. 7a and 7b.

Summary: In the confectionery industry there still exists considerable uncertainty about the application of sugar inversion by acids. This paper shows the influence of duration and temperature of inversion, pH, acid used, sugar concentration, kind of sugar, and of the water used for cooking.

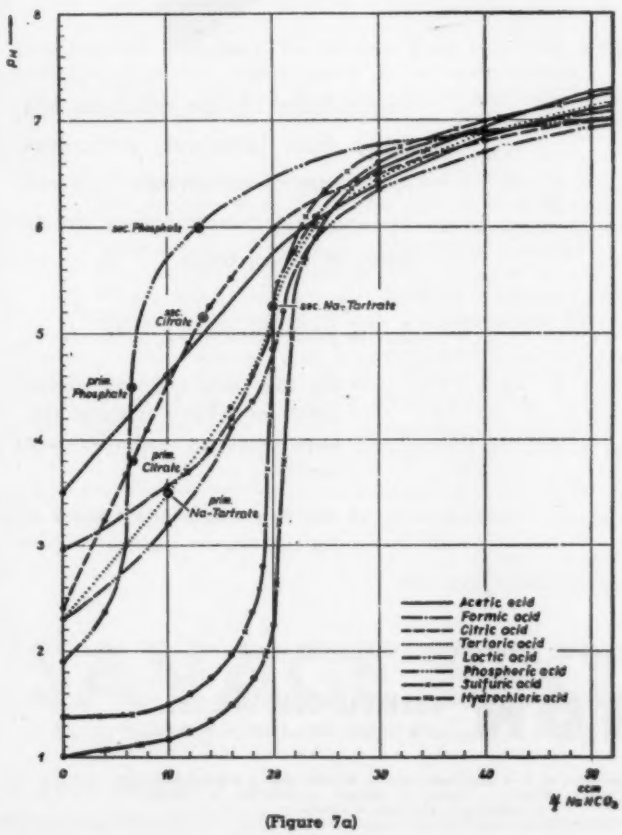
For full control of the inversion process exact calculation of the pH-value is essential. This is comparatively simple for condensation water and demineralized water. Practical calculations are given for natural water. A separate paper (12) of one of the authors deals with pH measurement of highly concentrated sugar solutions.

Theoretical calculations required for the control of the inversion process, supplemented by diagrams and tables, are applied to some practical examples of the industrial preparation of hard candies.

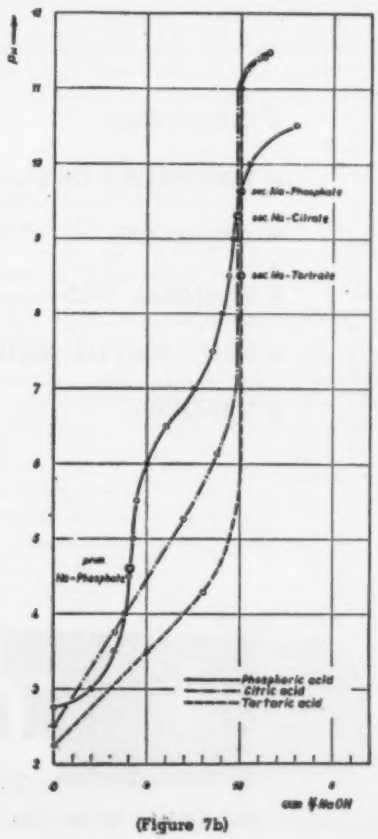
The dangers of excess neutralization are illustrated by titration curves. Another table shows the amounts of sodium bicarbonate required for neutralization of acids commonly used in the confectionery industry.

References:

1. Critical Tables, II, 345.
2. a. Baur, E., and Preis, H. Helv. Chim.Acta, 22, 427 (1938). (contains K for sulfuric acid, 50°C)
   b. Duboux, M., and Rochat, J. Helv.Chim.Acta, 22, 563 (1939) (contains K for hydrochloric acid, 0.1 N to 5 N, 25°C)
   c. Jackson, R. F., and Gillis, C. G., B. of St. Sc, P. 375 (1920), B. of St. Bull. 16, 125 (1920) (contains K for hydrochloric acid, 0.01N, 0.7925N, and 1N at various temperatures)
   d. Jackson, R. F., and Silsbee, C. G., B. of St. Techn. P. 259 (1924), B. of St. Bull. 18, 277 (1924) (contains K for 0.01N hydrochloric acid with 13% sucrose at temperatures between 50°C and 100°C)
   e. Lamble, and Lewis, cited by Landolt-Boernstein, Phys. Chem. Tables, 2nd Suppl. Vol., p. 1385 (contains K for 0.01 to 0.001N hydrochloric acid at 48.2°C and
   f. Palmaer, Zs. Phys. Ch. 22, 504 (contains K for 0.01 to 0.001 Nhydrochloric acid at 48.2°C and states that at pH 2 K is directly proportional to the H-ion concentration)
   g. Cf. Toedt, F., and Spengler, O., Z. Verein d. Deutschen Zuckerind., Techn. Teil, 78 393 (1928)
   h. Spengler, O., Toedt, F., and Bottger, St., Z. Wirtschaftsgruppe Zuckerind., 86, 826 (1936)
   Spengler, O., Bottger, St., and Seeliger, G., Z. Wirtschaftsgruppe Zuckerind., 88, 295 (1938)
3. Andersson, Confectionery Prod., Nov. 1949
4. Ostwald, J. Pr. Ch. (2), 29, 392
   cf. Beilstein, 31, (carbon hydrates), 439
5. Duboux, M., Helv. Chim. Acta, 7, 349 (1924)
6. Afferni, E., Ann. Chim. Appl., 39, 381 (1949), Abstract in Z.U.L., 92, 51 (1951)
7. Kordatzki, Taschenbuch der praktischen pH-Messung, Editors Mueller & Steinicke, Murnchen 1949, 4th ed.
8. Lange, A. E., Electrical Conductivity of Impure Sugar Solutions, Z. fur die Zuckerind., p. 365 (1910)
9. Paul, Th., Zs., f. Elektrochemie 28, 435 (1922)
10. Jackson, R. F., and Silsbee, C. G., B. of St. Techn. P. 259, B. of St. Bull. 18, 277 (1924)
11. Reichsgesetzblatt 1930, Part I, p. 102, Law on Artificial Honey, dated March 21, 1930.
12. Bartusch, W., Measuring pH in the Confectionery Ind., Gordian, 51, 1218 (1951).



(Figure 7a)



(Figure 7b)

IT'S NOT A MATTER OF

- CITRUS OILS
- TERPENELESS OILS
- AROMATICS
- ESSENTIAL OILS
- BASIC FLAVOR NOTES
- VANILLAS

The success of our products has come from laborious, meticulous laboratory development, followed by time-tested application by all types of flavor users.

Build your business with...

- The true uniformity and superb quality of Felton's essential oils, basic flavoring materials and vanillas.
- The fully characteristic notes of Felton's fine aromatics.

FLAVORS • ESSENTIAL OILS • AROMATICS

FELTON CHEMICAL COMPANY, INC.
599 Johnson Ave., Brooklyn 6, N. Y.

PLANTS: Brooklyn, N. Y. • Los Angeles, Cal. • Montreal, Que. • Paris, France
SALES OFFICES: Atlanta • Boston • Chicago • Cleveland • Dallas
Philadelphia • St. Louis • Toronto

Stocks Carried in Principal Cities

SAVAGE STANDARD REVOLVING PAN

STREAMLINED • SANITARY • SILENT

The Savage Standard Revolving Pan supplied with fabricated steel stand totally enclosing slow speed motor, roller chain drive and precision roller bearings. The pan can be supplied made of heavy copper, **hammered for extreme hardness,** either plain or with bumped-in ribs as illustrated. Stainless steel pans are also available in 38" size only, plain or with bumped-in ribs.

- Fabricated steel stand with only pan spider and pan itself exposed.
- Pan pitched for correct angle of revolution at maximum capacity—test load 300 lbs.
- Motor mounted on adjustable base for chain take up, if necessary.
- Electric switch located conveniently for operator.
- Easy access to motor and drive by means of large side door—no bolts or nuts to remove.
- Heavy duty precision roller bearings furnished for minimum power.
- Direct motor drive only.
- Standard size 38" diameter, 33" deep, 24½" diameter opening.

Savage Standard Revolving Pans are the best for producing cream almonds, cream filberts, Boston baked beans, chocolate covered nuts, jelly beans, cinnamon imperials; also suitable for sugar coating or sanding work, toasting cocoanut and burnt peanuts and almonds. The plain pan fitted with burner or equipped with steam coil is commonly referred to as a grossing pan and the plain pan with ribs as a polishing pan.

12" LABORATORY MODEL COPPER REVOLVING PAN FOR EXPERIMENTAL BATCHES AVAILABLE

For more information write:

Since 1855

SAVAGE BROS. CO.

M. A. Savage, President • *Richard J. Savage, Jr., Vice President*

2638 GLADYS AVE. **CHICAGO 12, ILL.**

Mr. C. Andy Barr, President
Candy Barrs, Unlimited
Anywhere, U. S. A.

Dear Dad:

In part of the country, special ice creams are being formulated for diabetics. These seem to be selling.

Roughly, about one percent of our population has diabetes. Some eight thousand children are afflicted with this disease—inability to completely utilize sugar. These people must know the food value, caloric content and composition of their diet. Naturally, some must miss sweets.

Now, there are numerous candies on the market which are perhaps, suitable for diabetics. I think we can make better ones although considerable experimental work may be involved.

Sucaryl and Mannitol seem to offer promise. Glycerin, gelatin, gums, and gluten may also be helpful ingredients. Milk solids because of the high lactose (milk sugar) content may be replaced by a soluble casein. Many of the fruits and nuts seem to be "naturals."

If we can develop a line of diabetic candies which taste really as candy should taste, we can also interest the "heavyweights," (people grossly overweight), and enjoy a two-phase market. America seems filled with people having the bulging waist-line!

I don't like artificial sweeteners in candies: saccharin and sucaryl both have their limitations. I understand that sucaryl withstands processing temperatures much better than saccharin but don't know why it should. Of course, neither chemical has any food value.

Another dietary food that seems to be moving is the Low Sodium line. Some health stores sell a few low sodium candies. Common salt contains about 39.3% of sodium. The ability of the human body to retain water is associated with sodium. A low-sodium diet has been advised for certain disorders such as cardiovascular. The sodium content of these special foods is usually expressed in milligrams of sodium per 100 grams of the food.

Whether it would pay to consider Low-Sodium Candies is a question. Exact control might be too great a problem. However, some candies have been analysed for their sodium content, and from the table, you can see that a few would certainly be acceptable under a Low-Sodium designation.

Type of candy	mg. Sodium/100 gms.
Bar, Baby Ruth	170
Bar, Milky Way	220
Bar, Oh Henry	76
Gum drop	41
Marshmallow	41
Milk chocolate	86
Necco Wafers	5
Peppermint patty, Schrafft's	10
Sweet chocolate	35

Shall be pleased to discuss these ideas further with you, if you think they have any potential for us.

Your son,
C. Andy Barr, Jr.

EDITOR'S NOTE:

The analytical table on the sodium content of candies was taken from "Sodium and Potassium in Foods and Waters," by C. E. Bills, F. G. McDonald, W. Niedermeier, and M. C. Schwartz, Journal of the American Dietetic Association 25: 304-314 (April) 1949.

Some interesting reading on the subject of diabetics, not too technical, will be found in the following:

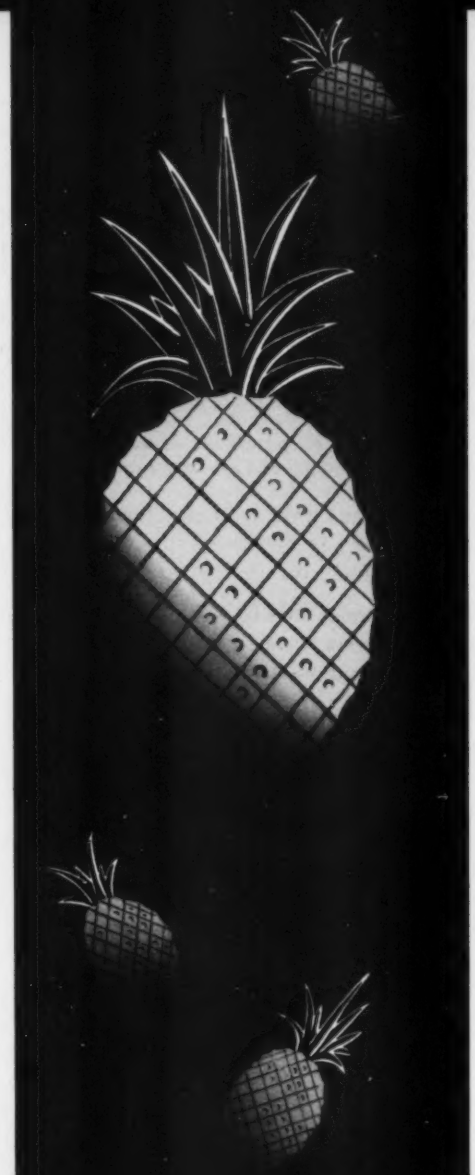
Food Industries Manual, 17th Edition, 1951.

Ice Cream Formulas for Diabetics, B. E. Hubbell, Jr., Ice Cream Review, February 1953.

An Introduction to Public Health, Harry S. Mustard, 1950.

Nutrition for Health, Holger Frederick Kilander, 1951.

The Second Forty Years, Edward J. Stieglitz, 1946.



National

CERTIFIED

FOOD COLORS

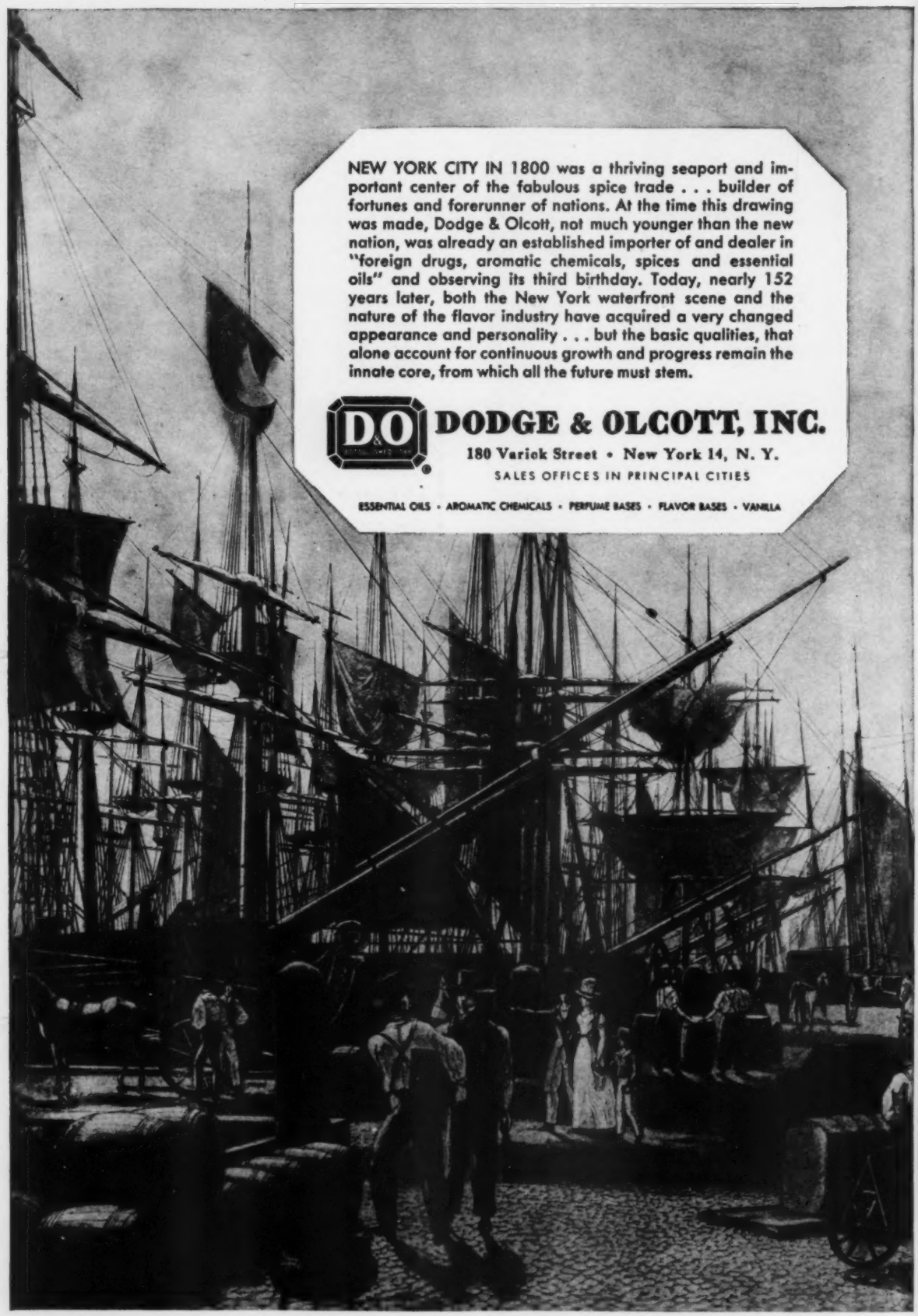
KEEPING PACE WITH PROGRESS
IN MODERN FOOD MANUFACTURING

Just as modern methods have standardized food processing and packaging, precise manufacturing-control has standardized the quality of National Certified Food Colors.

National has completely integrated production of certified food colors from basic raw materials to intermediates to finished colors . . . with precise control of chemical and physical properties at every step in the complicated manufacturing operations. No higher quality can be consistently maintained.

When you specify "National" you are assured of uniform pure-dye strength, brightness of shade and solubility . . . assured of uniformly appetizing color in finished goods, regardless of season or climate.

CERTIFIED COLOR DIVISION
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.
Boston Philadelphia Chicago Charlotte
San Francisco Portland, Ore. Toronto


NEW YORK CITY IN 1800 was a thriving seaport and important center of the fabulous spice trade . . . builder of fortunes and forerunner of nations. At the time this drawing was made, Dodge & Olcott, not much younger than the new nation, was already an established importer of and dealer in "foreign drugs, aromatic chemicals, spices and essential oils" and observing its third birthday. Today, nearly 152 years later, both the New York waterfront scene and the nature of the flavor industry have acquired a very changed appearance and personality . . . but the basic qualities, that alone account for continuous growth and progress remain the innate core, from which all the future must stem.
D&O
DODGE & OLCOTT, INC.
180 Varick Street • New York 14, N. Y.
SALES OFFICES IN PRINCIPAL CITIES
ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • FLAVOR BASES • VANILLA

The Future

by Sweetest

From Confectionery Journal, London

Three manufacturers, at lunch one day,
Were asked by a retailer who happened to stray
Into their company, if they would assay
The figure at which demand would stay.
And the first did sigh and the second did groan,
And the third did utter an agonized moan.

The retailer gazed at the first wise head
With wonderment, then gently said,
"What fills you, honoured sir, with dread?
It cannot be fear for your daily bread."
And the first did sigh and the second did groan,
And the third did utter an agonized moan.

Then the first wise head turned his face to the wall
And wailed for a shroud and a purple pall.
"I speak," he wept, "I speak for us all
When I say that demand must inevitably fall."
And the first did sigh and the second did groan,
And the third gave vent to an agonized moan.

The retailer turned to the second man there.
"Good sir," he said, "you cannot share
The gloom your friend spreads everywhere.
Tell me: How will our sweets trade fare?"
And while the first did sigh, the second did groan,
And the third did utter an agonized moan.

The second man bowed his head in grief,
Then sadly cried, "It is my belief
That the future is dark—there is no relief.
Our prosperous spell will be very brief."
And the first did sigh and the second did groan,
And the third did utter an agonized moan.

"But my sales," said the retailer, "are exceedingly high
And I easily sell every outer I buy.
Yet you sit there and tell me our world's all awry,
That bankruptcy lurks and depression is nigh."
And the first did sigh and the second did groan,
And the third gave birth to an agonized moan.

"That," said the second man, in accents most curt,
"Is a temporary spasm, a misleading spurt.
There's naught we can do a fall to avert,
So get out of the business before you get hurt."
And the first did sigh and the second did groan,
And the third did utter an agonized moan.

Then the third man stirred on his seat of plush
And spoke into the dismal hush.
Said he, "At Morton-under-Slush
Sweet sales are falling with a rush."
And the first did cry and the second did moan,
And the third did utter a horrible groan.

P&F has the answer to your 1953 corn syrup and starch requirements.

Try these 3 time proven products:

Penford Corn Syrup—a drum or a tank car

Douglas Confectioners Thin Boiling Starch and

Douglas Confectioners Moulding Starch—in bags or car loads.

Penick & Ford Ltd. Inc.

420 Lexington Ave. New York 17, N.Y.
Factory: Cedar Rapids, Iowa

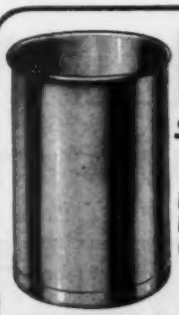
CONVEYORS

Corrigan bulk dry sugar handling and storage systems convey sugar from unloading point to storage and from storage to production.

Improve production facilities
Lower operation costs

J. C. CORRIGAN CO. INC.

41 Norwood St., Boston 22, Mass.



STANcase EQUIPMENT

STAINLESS STEEL DRUMS

MODEL 30--30 GAL.
MODEL 55--55 GAL.
(Covers available)

ECONOMY EQUIPMENT

RUGGEDLY CONSTRUCTED FOR LIFE TIME WEAR.
FULLY APPROVED BY HEALTH AUTHORITIES.

Manufactured by
The Standard Casing Co., Inc.
121 Spring St., New York 12, N. Y

Subscribe to
THE MANUFACTURING CONFECTIONER
Only $5 for 2 years, $3 for 1 year in U.S. and Canada. Only $7 for 2 years, $4 for 1 year in other countries.

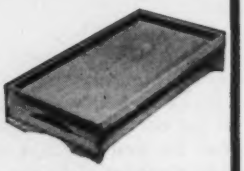
- Feature Articles
- Candy Clinic
- Candy Packaging
- Candy Equipment Preview
- Technical Literature Digest
- Manufacturing Retailer
- Book Reviews

And many other features

418 N. Austin—Oak Park, Ill.

Starch Trays

- *At their best!*
- *At lowest prices!*

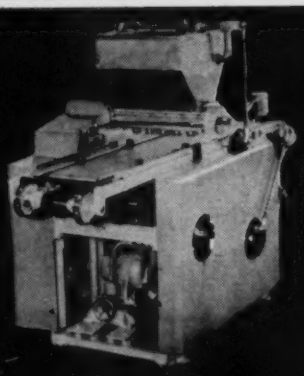


Masonite and Solid Wood Glued Bottoms Nailed—Lock Corner and Water-proof Glued Hard and Soft Woods

also: Dipping Boards—Starch Tray Dollies
Pan Room Trays—Wire Bottom Trays
Mould Boards
And All Other Affiliated Wood Products

Ask for quotation

BAYWOOD MFG. CO., INC.
2757 Stillwell Ave. Brooklyn 24, N.Y. CO 6-1133



DEPOSITOR (Junior)

There are now 4 models of the famous Racine Depositor to choose from to fit the requirements of any shop. See the sturdy, new Bantam Depositor at Booths 3 & 4 at the Waldorf.

V R

VACUUM CANDY MACHINERY CO.
RACINE CONFECTIONERS' MACHINERY CO.
15 PARK ROW NEW YORK 38, N.Y.

The third man went on, in a voice of gloom,
"This is the end of our short-lived boom.
This heralds, I say, the hour of doom.
Worries and troubles before us loom."
Then the first did sigh and the second did groan,
And the third collapsed with a sorrowful moan.

For, with sad accord, they began to cry,
As if on their hearts great weights did lie.
Each with the other did tearfully vie
To produce a constantly brimming eye.
And the first sighed, too, and the second's loud groans
Were matched by the third's most heart-rending moans.

Sobbed the first manufacturer, "Soon trade will be slack!"
While the second did wail, "The whole sky is black!"
The third manufacturer swooned full on his back
With a piteous murmur of "Alas and alack!"
Yes, the first did sigh and the second did groan,
And the third gave vent to an agonized moan.

The retailer rose and said, "It appears
You enjoy sitting there embracing your fears.
Believe in our future! Dry all those tears!
I believe we are headed for prosperous years."
But the first did cry and the second did groan,
And the third did quake with an agonized moan.

"The public is buying our sweets every day.
They buy them to eat and not hoard away.
They now have the money; they are getting more pay.
So cheer up, my lads!" did the retailer say.
Yet the first did cry and the second did groan,
And the third shook his head with a sorrowful moan.

"Forget," called the retailer, "our sales in the past.
The scope before us is limitless, vast.
Come, nail brave colours to the mast
And for Prosperity our course set fast!"
But the first still sighed and the second still groaned,
And the third beat his breast and soulfully moaned.

Yes, the first still sighed and the second still groaned,
And the third cried aloud as he fearfully moaned.

So the retailer left them there;
Left them in gloom and dull despair.
He marvelled that they did not dare
Breathe Freedom's bracing, challenging air.
But some will always sigh and groan,
And some will always cry and moan.

TRUTASTE FLAVORS

KASKA CONCENTRATED CITRUS OILS

Neumann, Buslee & Wolfe, inc.

5800 NORTHWEST HIGHWAY, CHICAGO 31, ILLINOIS

CORDIAL FRUITS

by WALTER RICHMOND

Walter Richmond, the author of this article, is plant superintendent at the Norris Candy Company, Atlanta, Georgia. He is well known to this industry through his book "Candy Production Methods and Formulas", published by The Manufacturing Confectioner Publishing Company. This article is a chapter from Mr. Richmond's new book, to be published next spring. This will be primarily made up of formulas and methods for the manufacture of high grade confections, such as are produced by retail confectioners and high grade wholesale package goods houses.

CORDIAL fruits, wherein the fondant is fully liquefied, can be made by dipping fruits such as Maraschino cherries, pineapple cubes, etc., in a fondant, high in sugar content and then covering with chocolate coating or by molding a chocolate shell in metal molds and placing the fruit and a low-cooked fondant in the shell. A chocolate coating is then spread over the surface of fondant to seal the shell.

In the *first method* of *making cordial* fruits the fondant, that surrounds the *fruit*, is liquefied by the moisture of the fruit dissolving the sugar crystals in the fondant. The fondant should be one with a high sugar content so that it will set up quickly and can be dipped before the juice of the fruit begins to liquefy the fondant. Invert sugar and invertase speed up the liquefying of the fondant. The dipped fruits should not contain too large a percentage of fondant or a fully cordialed fruit will not be obtained. For cherry cordials 900 to 1000 count cherries contain enough moisture to fully liquefy the dipped fruit fondant. The dipped fruits should be stored from 10 days to two weeks to permit the fondant to fully liquefy.

The *second method of making cordial fruits by molding* requires no special skill other than that acquired by a person familiar with chocolate dipping. I know of no better method of making *molded cordial fruits* or *liquid creams* than the one developed by Mr. James A. King.

The following information is used through the courtesy of the Nulomoline Company.

Formula No. 35
Molded Cordial Creams

Molding the chocolate shell

Temper the metal molds to approximately 70-75 degrees Fahr.

Melt and temper the chocolate coating from 88 to 92 degrees. Fill the metal molds with tempered chocolate. Vibrate the chocolate filled molds to release entrapped air. Allow the mold to set for one or two minutes until they have taken on a crust of chocolate. Turn the filled molds upside down on a screen and shake to release the surplus chocolate from the molds.

After the surplus chocolate has been shaken from the molds turn them right side up and scrape *all* the *surplus chocolate* from the *surface* of the *molds*. Place the molds in a cool room or pass them through a cooling tunnel. The temperature of the room or tunnel should be 50 degrees Fahr. or less.

The metal molds containing the set chocolate shells are then partly filled with fluid fondant, allowing space for the bottom chocolate coating.

The filled molds are then allowed to set until the surface of the fondant has formed a crust. A chocolate coating is then spread over the surface of the fondant to completely seal the bottom.

The molds containing the sealed chocolate shells are then placed in the cool room. When the bottoms have firmly set, the filled chocolate shells are removed from the mold by turning them up-side down and tapping them on a table or metal slab.

For cordial fruits, place the fruit in the chocolate shell, add a very liquid fondant cream, allowing space for the bottom chocolate coating which should extend part way into the shell; proceed as with fluid creams.

Fluid Cream Fillings for Molded Chocolate Shells

Fondant Base

Formula No. 35

Small Batch Hand made	*Ingredients*	*Large Batch Machine made*
8 lbs	Medium granulated sugar	40 lbs
1 lb	Invert sugar	5 lbs
1 lb	Corn syrup	5 lbs
1 quart	Water	5 quarts

Procedure: Place all ingredients in cooking kettle. Cook to 242-244 degrees Fahr. Pour onto cream slab or cream beater that has been lightly sprinkled with water. Sprinkle the top of the batch with a small amount of water. Cool to approximately 100 degrees. Cream up the batch and place in a covered container. Allow fondant to sweat back. Use at once, or, if it is to be used later, rub a little Nulomoline-Convertit mixture over the surface to prevent surface drying.

Nulomoline-Convertit Mixture

Small Batch	*Ingredients*	*Large Batch*
5 lbs	Nulomoline (invert sugar)	50 lbs
½ ounce	Convertit (invertase)	5 ounces

Procedure: Warm Nulomoline until clear, not over 145-150 degrees, add convertit and mix well. Store in a covered container until ready to use.

Fluid Cream Filling

Add 1 pound of Nulomoline-convertit mixture to 5 pounds of fondant base, at normal room temperature. Add desired color and flavor and cast the flavored fluid fondant into the chocolate shells.

For cordial fruits a little more Nulomoline-Convertit mixture can be used with the 5 pounds of fondant base to more fully liquefy the cream.

Many tasty creams can be made by adding ground Maraschino cherries, fruit purees, fruit jams, powdered soluble coffee mixed with water, melted chocolate liquor, or other ingredients to the fluid cream.

The fluidity of the creams can be regulated by increasing or decreasing the fondant base or the Nulomoline-convertit mixture.

Formula No. 36
Kettle Dipped Cordial Fruits No. 1

Small Batch Hand Made	*Ingredients*	*Large Batch Machine Made*
10 lbs.	Medium granulated sugar	50 lbs.
1 lb.	Invert sugar	5 lbs.
⅛ oz.	Cream of Tartar	⅝ oz.
2 qts.	Water	2½ gals.

Procedure: Place sugar, invert sugar, cream of tartar and water in cooking kettle. Cook to 242 degrees Fahr. Pour onto cream slab or cream beater. Cool to approximately 100 degrees. Cream up batch and place in covered container. Allow cream to sweat back. Place a portion of the cream in dipping pot. Remelt to a temperature above 145 degrees so that the cream will set up quickly after the fruit is dipped. Place dipped fruits in a cool room. When cream has set and is cool enough to dip, hand dip or machine coat with a heavy coating of chocolate.

Remarks: This is an all sugar dipping fondant and will liquefy rapidly if not overheated to the extent that the fondant grains and sets with coarse sugar crystals. The fondant surrounding the fruit will cordial more quickly if about ¼ of a teaspoon of invertase is added to every 5 pounds of remelted cream.

The addition of cream of tartar will prevent the fondant from setting up with a coarse grain. A fine grain fondant will cordial more quickly than one with a coarse grain so care should be taken so that the fondant is not creamed too hot or overheated in the remelting process.

The cooking temperature of the fondant can be low-

The Manufacturing Confectioner, of course.

ered or raised to suit your requirements.

The fruit should be drained at least ½ hour before using otherwise the juice surrounding the fruit will partially liquefy the fondant before the dipped fruit is cool enough to chocolate coat.

Best results are obtained if the fondant is used the same day that it is made. If not used the same day that it is made it will soften up and require more heat in the remelting kettle to set it up. Any cream left over from day to day can be mixed with fresh made fondant.

Formula No. 37

Kettle Dipped Cordial Fruits No. 2

Small Batch Hand Made	*Ingredients*	*Large Batch Machine Made*
15 lbs.	Medium granulated sugar	60 lbs.
2 lbs.	Corn Syrup	8 lbs.
3 qts.	Water	3 gals.

Procedure: Place sugar, corn syrup and water in cooking kettle. Cook to 239-240 degrees Fahr. Pour onto cream slab or cream beater. Cool to approximately 110 degrees. Cream up batch and place in covered container Allow cream to sweat back before using.

For dipping purposes proceed as with previous formula No. 36.

Remarks: This dipping fondant contains corn syrup and does not have to be used the same day that it is made. It has a little tougher texture than the fondant made with invert sugar and may require more time to liquefy. Add ¼ teaspoon of invertase to each 5 pounds of remelted fondant.

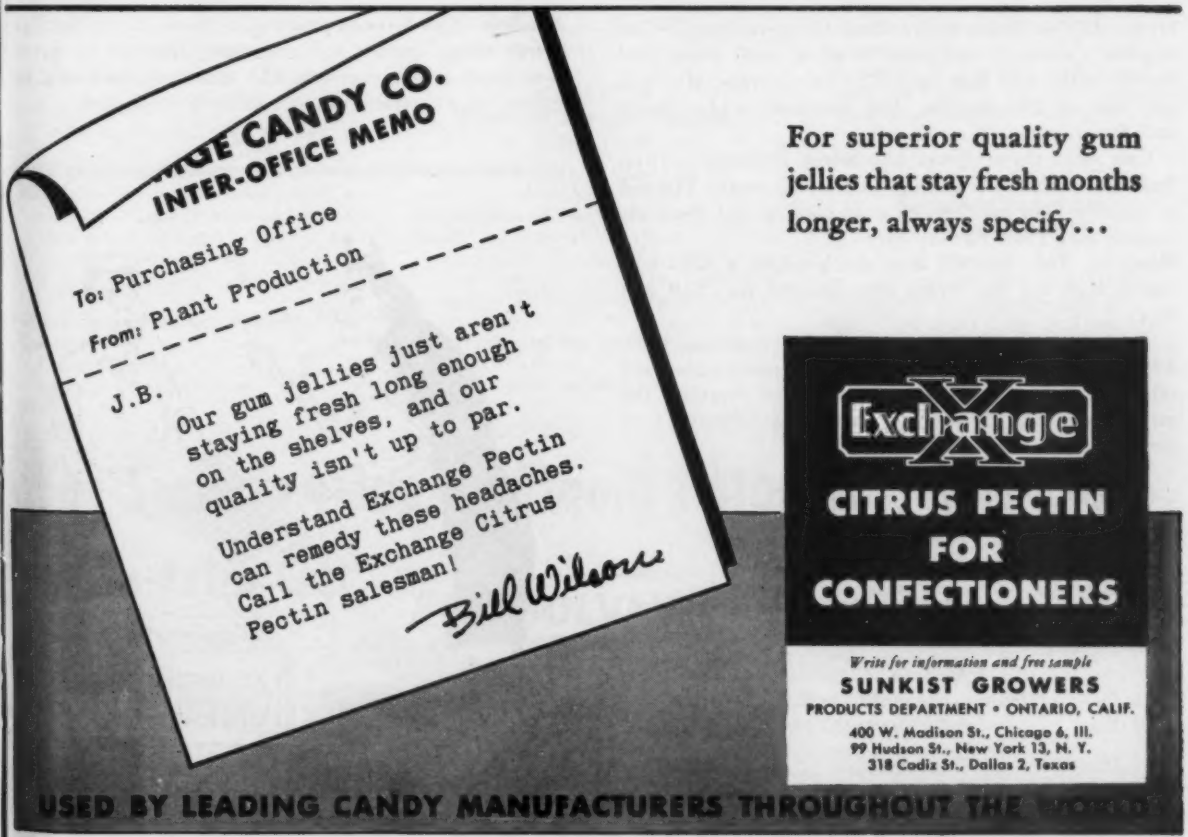
Formula No. 38

Cast Cordial Cherries

Small Batch Hand Made	*Ingredients*	*Large Batch Machine Made*
	Part 1 - Fondant	
8½ lbs.	Medium granulated sugar	85 lbs.
1½ lbs.	Corn syrup	15 lbs.
3 pts.	Water	4 gals.
	Part 2 - Bob	
7 lbs.	Sugar	70 lbs.
½ lb.	Invert sugar	5 lbs.
	Part 3	
½ oz.	Invertase	5 ozs.
3 drams	Acid Solution	4 ozs.
	(equal parts water and tartaric acid)	

Procedure: Part 1, place sugar, corn syrup and water in cooking kettle. Cook to 242 degrees Fahr. Pour onto cream slab or cream beater. Cool to 100 degrees. Cream up and allow fondant to sweat back. Place into remelt kettle. Add Bob cooked to 233-235 degrees. Mix well and heat to 160 degrees. Add invertase and acid solution.

Cast small tip of cream into starch impression. Drop cherry into center of cream tip. Cover with cream. Place in coolest part of room. When cool and firm enough to handle, shake out of starch and either hand dip with a heavy coating of chocolate or machine coat with a thin coating of chocolate. When machine dipped centers have reached room temperature, redip in chocolate. Place in stock boxes for 10 days or two weeks to allow the fondant to fully liquefy.


INTER-OFFICE MEMO
To: Purchasing Office
From: Plant Production
J.B.
Our gum jellies just aren't staying fresh long enough on the shelves, and our quality isn't up to par.
Understand Exchange Pectin can remedy these headaches. Call the Exchange Citrus Pectin salesman!
Bill Wilson

For superior quality gum jellies that stay fresh months longer, always specify...

Exchange

CITRUS PECTIN FOR CONFECTIONERS

Write for information and free sample

SUNKIST GROWERS

PRODUCTS DEPARTMENT • ONTARIO, CALIF.

400 W. Madison St., Chicago 6, Ill.
99 Hudson St., New York 13, N. Y.
318 Cadiz St., Dallas 2, Texas

USED BY LEADING CANDY MANUFACTURERS THROUGHOUT THE

Remarks: The coated cherries should average about 28 pieces to one pound and contain 40% chocolate coating. The uncoated centers should average 46 pieces per pound. Use a 1000 count per gallon cherry. Drain cherries at least one hour before using. Use a mold small enough in diameter so that the cherries will be fully covered with cream and still not average less than 46 pieces per pound.

If a larger percentage of cream is used the fondant will not fully cordial. When made as outlined above a fully cordialed cherry comparable to a kettle dipped cherry will be obtained.

Formula No. 39

Cast Cordial Cream Fruits

Small Batch Hand Made	*Ingredients*	*Large Batch Machine Made*
	Part 1 - Fondant	
18 lbs.	Medium granulated sugar	72 lbs.
1½ lbs.	Corn syrup	6 lbs.
½ lb.	Invert sugar	2 lbs.
7 pts.	Water	3½ gals.
	Part 2 - Bob	
3 lbs.	Sugar	12 lbs.
2 lbs.	Corn syrup	8 lbs.
	Part 3	
1½ oz.	Invertase	6 ozs.
¾ oz.	Acid solution	3 ozs.
	(equal parts water and tartaric acid)	

Procedure: Part 1. Place sugar, corn syrup and water in cooking kettle. Cook to 242 degrees Fahr. Pour onto cream slab or cream beater. Cool to approximately 110 degrees. Cream up and allow to sweat back. Place into remelt kettle. Add Bob cooked to 243 degrees. Mix well and heat to 160 degrees. Add invertase, acid solution and flavor.

Cast small tip of cream into starch impression. Drop fruit into center of cream tip. Cover with cream. Proceed as with cast cordial cherries as to cooling and chocolate coating (see Formula No. 38).

Remarks: This formula does not produce a fully cordialed fruit but the cream does become very soft and flowy.

For cream cherries use a small cherry with a 1100-1200 count per gallon. Pineapple cubes, peach cubes and other fruit pieces can be used instead of cherries. The cream should be flavored to correspond with the fruit used.

The dipped fruit creams should be stored for two weeks to allow the cream to soften up.

Formula No. 40

Cast Butter Cream Cherries

Small Batch Hand Made	*Ingredients*	*Large Batch Machine Made*
	Part 1 - Fondant	
20 lbs.	Medium granulated sugar	80 lbs.
2 lbs.	Invert sugar	8 lbs.
1 lb.	Corn Syrup	4 lbs.
1½ ozs.	Salt	6 ozs.
1 gal.	Water	4 gal.
	Part 2	
10 oz.	Invert Sugar	2½ lbs.
3½ lbs.	Frappe No. 2	14 lbs.
1 lb. 10 ozs.	Plastic Vegetable Butter 92°	6½ lbs.
Sufficient	Butter Flavor	Sufficient
1 oz	Vanilla Flavor	4 ozs.
¼ oz.	Anti-oxidant	1 oz.
¾ oz.	Invertase	3 ozs.
	Part 3-Bob	
10 lbs.	Sugar	40 lbs.
5 lbs.	Corn Syrup	20 lbs.
½ gal.	Water	2 gals.

Procedure: Part 1—Fondant. Place sugar, invert sugar, corn syrup, salt and water in cooking kettle. Cook to 245-247 degrees. Pour onto cream slab or cream beater that has been spread with invert sugar in Part 2 and sprinkled lightly with water. Sprinkle top of batch lightly with water. Cool to 100-110 degrees. Add flavor and invertase. Start creaming the batch and when it becomes cloudy looking add frappe. When frappe is mixed in batch add plastic butter and anti-oxidant. Finish creaming batch and allow it to sweat back. Place in remelting kettle and add Part 3 Bob cooked to 240-242 degrees. Mix and heat to 150 degrees.

Deposit a small tip of cream in starch mold. Place cherry (1000-1100 count) in center of cream tip. Cover cherry with cream. Let remain in starch overnight. Shake out of starch and hand dip or machine coat in a good grade of milk chocolate or medium dark vanilla sweet chocolate.

Remarks: This formula produces a cream cherry that has a fine eating quality and one quite diffierent in flavor than most cream cherries. The cream fondant can be cooked in a Simplex Vacuum kettle if so desired.

Have you ever tried Brimstone as a Flavoring?

The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Code 8A53
Chocolate Pecan Fudge
1 lb. Package

(Sent in for analysis #4757)

Appearance of Package: Good.

Container: Container is a square tin foil tray, 4" by 4" by 2". Gold seal printed in green. Fudge is poured into the tray and a number of pecan halves are on top. Overall wrapper of cellulose.

Fudge:

Color: Good.
Texture: Good.
Taste: Good.
Pecans: Good.

Remarks: The best chocolate pecan fudge we have examined in some time. Very well made and an attractive container.

Code 8B53
Assorted Summer Candies
1 lb.—$1.35

(Purchased in a candy store, New York City)

Appearance of Package: Good.

Box: One layer type, blue glazed paper top. Name embossed in gold. Blue paper wrapper, over-all print of tall buildings, city streets, etc. in blue. Tied with a blue grass ribbon.

Appearance of box on opening: Good.

Candies:

Pecan Chews: Good.
Almond Clusters: Good.
Cashew Clusters: Good.
Assorted Caramels: Good.
Pecan Nougat Roll: Good.
Half Dipped Coconut Paste Balls: Good.
Chocolate Caramel & Almond (Printed cellulose wrappers): Good.
Crystalized Coconut Bon Bons: Good.
Toffee (Foiled Wrapper) Good.
Filbert Clusters: Good.
Praline Paste: (Foil wrapper) Good.
Filbert Paste: Good.
Caramel & Marshmallow: Good.
Chocolate Fudge: Good.
Nut Crunch (Cellulose wrapper): Good.

Assortment: Good.

Remarks: Candy is of the best quality and well made. The best box of this type of candies we have examined this year in this price field.

Code 8C53
Assorted Summer Candies
1 lb.—$1.44

(Purchased in a Candy Store, New York City)

Appearance of Package: Good.

Box: One layer type, yellow paper top printed in brown, red, white and blue. Imprint of brown belts and buckles. Outside paper wrapper, yellow, overall print of name in silver.

Appearance of box on opening: Good.

Candies:

Light coated centers:
Chocolate Caramel: Good.
Coconut & Caramel: Good.
Chocolate Paste: Good.
Kernel Paste: Good.
Three layer Coconut Jellies: Good.
Chocolate Fudge: Good.
Chocolate Coconut Paste & Nuts: Good.
Nut Crunch: Good.
Filbert Clusters: Good.
Pecan Nougat Slices: Good.
Chocolate Caramel & Almonds: (Printed cellulose wrapper): Good.
Pecan Coconut Paste Slice: Good.
Sugar & Chocolate Coated Almonds: Good.
Nut Nougats: Good.
Molasses Nut Chew: Good.
Vanilla Nut Caramel: Good.
One half dipped Coconut Balls: Good.
Cashew Clusters: Good.

Assortment: Good.

Remarks: One of the best boxes of summer candies we have examined this year in this price field. Well made and good eating.

Code 8D53
Assorted Chocolates
1 lb.—$1.25

(Sample #1)
(Sent in for analysis #4758)

Appearance of Package: Good.

Box: Two layer type, full telescope; bottom of box wrapped in cellulose. Box top embossed white paper. Name in red, gold and green.

For *Superior Quality* Liquid Potassium Carbonate

at No Extra Cost...

SPECIFY

SOLVAY

Solvay Liquid Potassium Carbonate is a quality product that contains less impurities . . . particularly suited for the manufacture of Dutch Process Cocoa and Chocolate. So—be sure to specify Solvay Potassium Carbonate!

Dustless Calcined 98%-100%
Hydrated 83%-85%
Liquid 47%

SOLVAY PROCESS DIVISION
Allied Chemical & Dye Corporation
61 Broadway, New York 6, N. Y.

Appearance of box on opening: See remarks.
Number of pieces:
Light coated: 17.
Dark coated: 24.
Gold Foiled Pieces: 2.
Coatings: Dark and light.
Colors: Good.
Gloss: Fair.
Strings: Fair.
Taste:
Dark: Good.
Light: Fair. See remarks.
Light coated centers:
Chocolate Cream: Good.
Hard Candy Blossom: Good.
Filbert Cluster: Good.
Nut Chip: Good.
Solid Chocolate Fancy: Good.
Hard Candy Fruit Blossom: Good.
Maple Cream: Good.
Solid Chocolate Paper Cup: Good.
Dark Coated Centers:
Maple Cream: Good.
Pink Cream: Could not identify flavor.
Caramel & Cream: Fair.
Cordial Cherry: Good.
Orange Cream: Lacked Flavor.
Vanilla Cream: Good.
Vanilla Fudge: Good.
Cream: Could not identify flavor.
Chocolate Caramel: Good.
Date Paste: Good.
Cream & Jelly: Good.
Almond Cluster: Good.
Honeycomb Chips: Good.
Vanilla Caramel: Good.
Assortment: Good.
Remarks: The appearance of the box on opening was not good. The cellulose had several grease spots on it and a cloudy look from same. Unless this box is used as a display box we suggest that the entire box, not just the bottom, be wrapped in cellulose.

The light coating had an "off" taste. We suggest the formula be checked as it could be the cocoa butter or milk powder.

The dipping and strings were carelessly done on many pieces. Some of the flavors need checking up. We have examined better candies at 80c-$1.00.

Code 8E53
Miniature Chocolates
1 lb.—$1.75
(Sample #2)

(Sent in for analysis #4759)
Appearance of Package: Good.
Box: One layer type, name etc. printed in red, black and white. Bottom of box wrapped in cellulose.
Appearance of box on opening: Fair.
Number of pieces:
Dark coated: 37.
Light Coated: 30.
Gold foiled pieces: 5.
Coatings: Dark and light.
Colors: Good.
Gloss: Fair.
Strings: Fair.
Taste:
Dark: Good.
Light: Had a slight off taste.
Dark coated centers:
Vanilla Creams: Good.
Pink Cream: Could not identify flavor.
Chip: Good.
Vanilla Fudge: Good.
Cream: Could not identify flavor.
Vanilla Caramel: Partly grained.
Almonds: Good.
Cordial Cherry: Good.
Date paste: Good.
Ginger: Good.
White Cream: Could not identify flavor.
Hard Candy Stick: Good.
Light coated centers:
Solid Chocolate: Good.
Nut Chip: Good.
Filbert Cluster: Good.
White Cream: Could not identify flavor.
Nut Nougat: Good.
Hard Candy Fruit Blossom: Good.
Chocolate Fudge: Good.
Nut Buttercrunch: Good.
Hard Candy Blossom: Good.
Nut Chip: Good.
Almonds: Good.
Chocolate Paste: Good.
Foil Cups Solid Chocolate: Good.
Foiled Jelly: Could not identify flavor.
Foiled Chocolate Paste: Good.
Foiled Nut Paste: Good.
Assortment: Fair. Too many cream centers.
Remarks: The box did not make a good appearance because only the bottom was wrapped in cellulose. Suggest some of the flavors be checked as they are not up to standard. The box is too large for a one pound assortment. Suggest a stronger divider be used. We have examined better candies at $1.00 to $1.25.

Code 8F53
Assorted Chocolates
1 lb.—$1.50
(Sample #3)

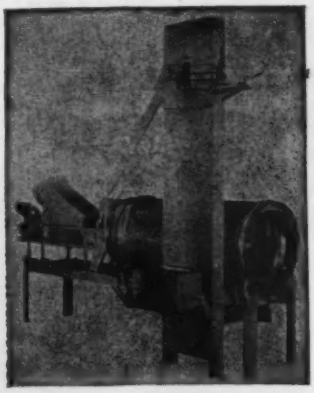
(Sent in for analysis #4760)
Box: One layer type, block paper top, overall printing in white of buildings, boats, water falls, etc. Name and seal embossed in red and gold.
Appearance of box on opening: Fair.
Number of pieces:
Dark coated: 22.
Light coated: 20.
Gold Foiled: 4.
Coatings: Dark and light.
Colors: Good.
Gloss: Fair.
Strings: Fair.
Taste:
Dark: Good.
Light: Had slight off taste.
Dark coated centers:
Taffy: Tough and hard.
Fudge and Caramel: Good.
Date: Good.
Vanilla Caramel: Good.
Pink Cream: Could not identify flavor.
Chocolate Nut Caramel: Good.
Almonds: Good.
Light coated: 30.
Almond Clusters: Good.
Chocolate Caramel: Good.
Orange Colored Cream: Could not identify flavor.
Cordial Cherry: Good.
Cream & Jelly: Lacked flavor.
Hard Candy Sticks: Good.
Light coated centers:
Hard Candy Blossom: Good.
Solid Chocolate: Good.
Nut Nougat: Good.
Nut Paste: Good.
Nut Cream: Good.
Vanilla Caramel: Good.
Filbert Cluster: Good.
Nut Buttercrunch: Good.
Hard Candy Chocolate Blossom: Good.
Maple Cream: Good.
Foil Cups Solid Chocolate: Good.
Foiled Honeycomb Chips: Good.
Foiled Nut Chips: Good.
Assortment: Good.
Remarks: The same can be said about this box as pertained to the other samples. We have examined better candies at $1.00 to $1.25 the pound.

Code 8G53
Assorted Chocolates & Candies
1 lb.—$2.25

(Sent in for analysis #4761)
Appearance of Package: Fair.
Box: Two layer type, full telescope. Buff paper top. Printed in red, blue and yellow. Pioneer days scenes printed in colors.
Appearance of box on opening: Fair.
Contents:
Pecan Nougat Roll: Good.
Nut Croquette: Had a strong taste.
Assorted Jellies: Grained.
Assorted Coconut Bon Bons: Good.
Caramel Whirls: Good.
Hard Candy Cuts: Good.
Caramel & Marshmallow: Good.
Assorted Light Coated Chocolates:
Solid Chocolate: Good.
Maple Nut Cream: Good.
Orange Colored Cream: Could not taste any flavor.
Nut Nougat: Good.
Vanilla Caramel: Good.
Hard Candy Blossom: Good.
Vanilla Fudge: Good.
Pink Cream: Could not identify flavor.
Vanilla Cream: Good.
Chocolate Nut Cream: Good.
Taffy: Hard and tough.
Assortment: Good.
Remarks: The same can be said of this box as was said of the other samples. We have examined better candies at $1.50 to $1.75 the pound.

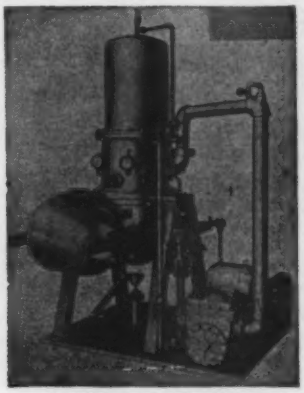
Code 8H53
Assorted Chocolates
2 lbs.—No Price Stated

(Sent in for analysis #4755)
Appearance of package: Good.
Box: White glazed paper top, name in brown, center of the top. Full telescope type, outside paper wrapper, white overall print of name. Tied with brown twine.
Appearance of box on opening: Fair.
Number of pieces:
Dark coated: 29.
Chocolate Fudge Nut Slices: 2.
Pecan Nougat Slices: 2.



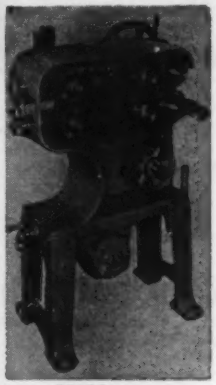
THE LATINI SUGAR SANDER AND SUPPLEMENTARY STEAMER

Guaranteed to properly sand the full output of a mogul! Enlarged steaming chamber. Non-corrosive metals wherever steam and sugar meet. Supplementary steaming brings out the natural brilliancy of sugar crystals and forms a protective film, simulating crystallized candies.



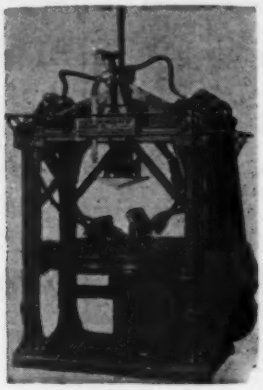
Hohberger Continuous Hard Candy Cooker

Up to 2,000 lbs. per hour. Simplified controls. A candyman's Cooker.



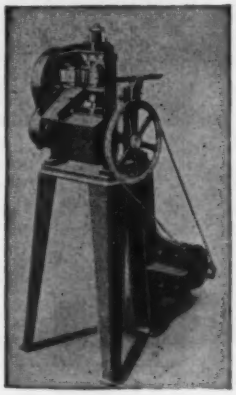
Hohberger Continuous Hard Candy Cutter

Highest production on filled or plain candies with variable speed drive.



Berks Hard Candy Batch Mixer

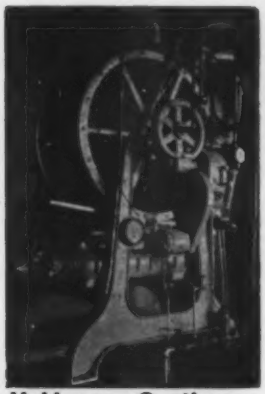
The Berks mixer incorporates color and flavor and kneads the candy the same as by hand. No discoloration. Over 50 users with from one to fifteen units —over 160 in operation.



Hohberger Continuous Cut Rock Cutter

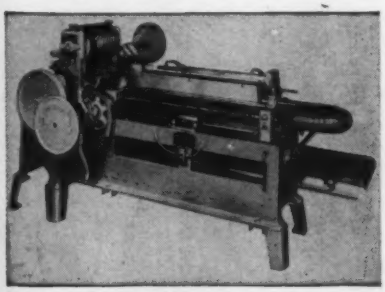
Motor and variable speed drive.

Complete with three sets of knives.



Hohberger Continuous Cream Machine

Up to 2000 pounds per hour of straight sugar fondant with proper doctoring or any amount of corn syrup.

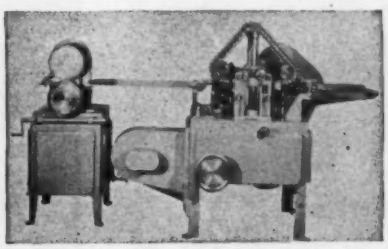


Hohberger Continuous Ball Machine

Up to 1200 lbs. per hour.
Forms filled or plain balls, barrels, unusual shapes and sunbeam starlights.

Sheffman Starch Dryer

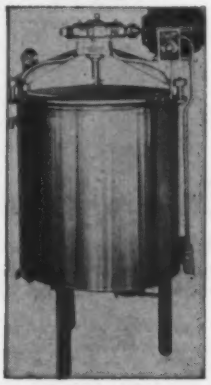
Custom-made to suit any capacity up to 20,000 pounds per hour.
Systems for drying, cooling and cleaning.



Latini Plastic Machine

The most productive plastic machine built today! Productive speeds up to 150 feet per minute.

Actual Production Figures:
Filled raspberries—1,200 lbs. per hour.
Solid goods—1,500 lbs. per hour.
Pulled Candies—900 lbs. per hour.



Ben-Moore Chocolate Kettle

Stainless Steel with removable nickel-alloy agitator.

Thermostatic Controls. Available in all sizes.

John Sheffman, Inc.

152 W. 42nd St. New York 36, N. Y.

Coatings:
Colors: Good.
Gloss: Fair.
Strings: Poor.
Taste: Good.
Dark Coating: Bloomed.

Light coated centers:
Chocolate Nut Caramel: Had a scrap taste.
Peanut Butter Blossom: Good.
Date: Good.
Chocolate Brazil Cream: Good.
Vanilla Cream: Good.
Peanut Clusters: Good.
Filbert Clusters: Good.
Vanilla Nut Fudge: Good.
Chocolate Nut Caramel-Nougat Shape: Good.
Chocolate Paste: Good.
Nut Taffy: Good.
Nut Butter Crunch: Good.
Pecan Chews: Good.
Vanilla Whipped Cream Center-Nut Coating: Good.

Dark Coated Centers:
Maple Nut Cream: Good.
Buttercreams: Good.
Marshmallow & Jelly: Good.
Chocolate Coconut Cream: Good.
Pineapple Cream: Good.
Caramallow: Good.
Vanilla Coconut Cream: Good.
Vanilla Caramel: Good.
Orange Colored Cream: Could not identify flavor.
Cream Brazil: Good.
Chocolate Cream: Good.
Pecan Nougat Slices: Good.
Nut Fudge Slices: Good.

Assortment: Good.

Remarks: Appearance of the box on opening was not good as the dark coating was bloomed and the gloss was almost gone. We have no way of knowing how old this package was. The milk chocolate looked good.

The centers are of the best quality and well made. The dipping was carelessly done and the strings were poor. We have examined some very cheap chocolates in bulk recently and for appearance, the bulk candy was superior, as far as gloss, dipping, stringing were concerned. Of course, the quality of the coating and centers could not be compared to these chocolates above analyzed.

WE BUY & SELL

ODD LOTS • OVER RUNS • SURPLUS

"Cellophane" BAGS

SHEETS • ROLLS • SHREDDINGS

Cellophane rolls in outer boxes 100 ft. or more

ALSO MADE OF OTHER CELLULOSE FILM

Wax - Glassine Bags, Sheets & Rolls

Tying Ribbons—All Colors & Widths

Scotch Tape Clear & Colors

Diamond "Cellophane" Products

Harry L. Diamond Robert L. Brown

"At Your Service"

74 E. 28th St., Chicago 16, Illinois

BRIDGE

MODERN CANDY CUTTER

Streamlined design, noiseless operation, interchangeable knife arbors, shafts in sealed ball bearings make this a modern candy cutter on all counts.

West Coast Representative:
L. H. BUTCHER CO.
San Francisco, Oakland, Los Angeles, Salt Lake City, Portland, Seattle

BRIDGE FOOD MACHINERY CO.

7124-36 James Street
Philadelphia 35, Pa.

3500 to 4000 lbs. per hour

of 6X powdered sugar is easily produced with the

SCHUTZ-O'NEILL *Superfine* PULVERIZER

If you have need for constant high production of powdered sugar, by all means investigate the 28" Schutz-O'Neill Superfine Pulverizer. It easily turns out 3500 to 4000 lbs. per hour of 6X powdered sugar with uniform fineness, using a 50 or 60 H.P. motor. Carry granulated sugar in stock,—make fresh powdered sugar as needed.

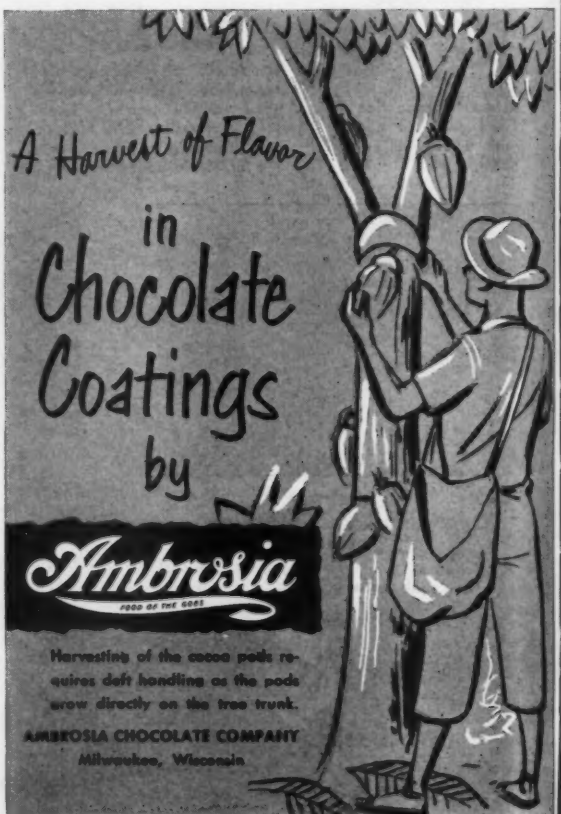
EXTRA EQUIPMENT: Automatic Starch Feeder will thoroughly mix any desired percentage of starch with powdered sugar.

Write for information, state capacity desired.

ESTABLISHED 1893

SCHUTZ-O'NEILL CO.

329 Portland Ave., Minneapolis 15, Minnesota



Confectionery Brokers

West No. Central States

ELMER J. EDWARDS
CANDY BROKERAGE
5352 31st Ave. So.
MINNEAPOLIS 17, MINN.
Phone: Pa. 7659
Terr: Minn., N. & S. Dak.—Special attention given to Twin City trade

GRIFFITHS SALES COMPANY
725 Clark Ave.—Phone GA. 4979
SAINT LOUIS 2, MISSOURI
We specialize in candy and novelties.
Terr: Mo., Ill., and Kan.

West So. Central States

JAMES A. WEAR & SON
P. O. Box 27
BALLINGER, TEXAS
Personal Representation
Territory: Texas

Mountain States

JERRY HIRSCH
Manufacturers' Representative
Candy and Specialty Items
4111 E. 4th St.
TUCSON, ARIZONA
Territory: Arizona, New Mexico & El Paso, Texas

AR-N-TEX
P.O. Box 1442
ALBUQUERQUE, NEW MEXICO
Brokers of Fine Candies and Interesting Novelties
We believe in "detail" work
Three Men covering:
West Tex., N. M., Ariz., Colo., Utah

G & Z BROKERAGE COMPANY
New Mexico—Arizona El Paso County Texas
P. O. Box 227 ALBUQUERQUE N. Mex.
Personal service to 183 jobbers, super-markets and department stores. Backed by 26 years experience in the confectionery field. We call on every account personally every six weeks. Candy is our business.

KAISER MICHAEL
Broker
Manufacturers' Representative
"Worlds Finest Candies"
911 Richmond Drive, S.E.
ALBUQUERQUE, NEW MEXICO
Terr: New Mexico, Arizona & El Paso, Texas area

Pacific States

MALCOLM S. CLARK CO.
1487½ Valencia St.
No. Cal., Nev., & Hawaii
SAN FRANCISCO 10, CALIF.
923 E. Third St.—Southern California
LOS ANGELES 13, CALIF.
Terminal Sales Bldg.
Wash., N. Idaho
SEATTLE 1, WASH.
903 Park Road
Ariz., New Mex., W. Texas
EL PASO, TEXAS

RALPH W. UNGER
923 East 3rd St.
Phone: Trinity 8282
LOS ANGELES, CALIFORNIA
Terr.: Calif., Ariz., N. Mex., Hawaiian Islands

GENE ALCORN & CO.
1340 E. 6th Street
LOS ANGELES 21, CALIFORNIA
383 Brannan Street
SAN FRANCISCO 7, CALIFORNIA
Territory: State of California

HARRY N. NELSON CO.
112 Market St.
SAN FRANCISCO 11, CALIF.
Established 1906
Sell Wholesale Trade Only
Terr: Eleven Western States

I. LIBERMAN
SEATTLE 22, WASHINGTON
Manufacturers' Representative
1705 Belmont Avenue
Terr: Wash., Ore., Mont., Ida., Utah, Wyo.

GEORGE R. STEVENSON CO.
Terminal Sales Building
SEATTLE, WASHINGTON
Territory: Wash., Ore., Ida., Mont
Over 20 years in this area.

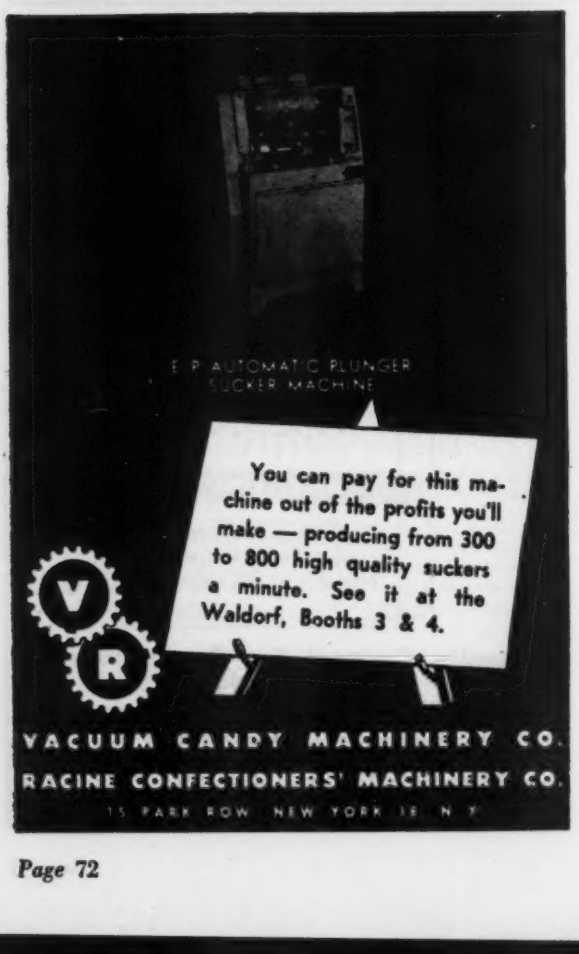
NILES F. WICKER
Confectionery Manufacturers' Representative
811 Boren Avenue
SEATTLE, WASHINGTON
Territory: Washington and Oregon
15 years' experience in selling candy to all wholesale grocery, tobacco, confectionery jobbers, besides making a full coverage on all grocery chains, drug chains, super markets and pre-packers.

D-3 SINGLE TILTING
STEAM VACUUM COOKER
WITH STEAM CIRCULATOR
Now produce whiter, drier hard candy with any combination of ingredients. The D-3 pays for itself with improved production. See it at the Waldorf, Booths 3 and 4.
V
R
VACUUM CANDY MACHINERY CO.
RACINE CONFECTIONERS' MACHINERY CO.
15 PARK ROW NEW YORK 38 N Y

for TOP QUALITY
HOOTON

- chocolate coatings
- liquors
- cocoas

HOOTON CHOCOLATE CO.
Fine Chocolate Since 1897
NEWARK 7 NEW JERSEY


E P AUTOMATIC PLUNGER
SUCKER MACHINE
You can pay for this machine out of the profits you'll make — producing from 300 to 800 high quality suckers a minute. See it at the Waldorf, Booths 3 & 4.
V
R
VACUUM CANDY MACHINERY CO.
RACINE CONFECTIONERS' MACHINERY CO.
15 PARK ROW NEW YORK 38 N Y

Confectionery Brokers

New England States

JESSE C. LESSE CO.
Confectionery
Office and Sales Room
161 Massachusetts Ave.
BOSTON 15, MASS.
Territory: New England

Middle Atlantic States

HERBERT M. SMITH
318 Palmer Drive
NO. SYRACUSE, NEW YORK
Terr: New York State

IRVING S. ZAMORE
2608 Belmar Place
SWISSVALE, PITTSBURGH 18, PA.
29 Years Experience
Terr: Pennsylvania, excluding city of Philadelphia

South Atlantic States

W. M. (BILL) WALLACE
Candy and Specialty Items
P. O. Box 472—111 Rutland Bldg.
DECATUR, GEORGIA
Terr: Ga. & Fla.
Thorough Coverage

SAMUEL SMITH
2500 Patterson Ave. Phone 22318
Manufacturers' Representative
WINSTON-SALEM 4, N. CAROLINA
Terr: Virginia, N. Carolina, S. Carolina

ROY E. RANDALL CO.
Manufacturers' Representative
P. O. Box 605—Phone 7590
COLUMBIA 1, SO. CAROLINA
Terr: No. & So. Carolina
Over 25 years in area

IRVIN P. NORRIS
Manufacturing Representative
Austin Circle
DECATUR, GEORGIA
Candy—Novelties—Package Foods
Territory: Ga., Fla., Ala. & Tenn.

JIM CHAMBERS
Candy Broker
84 Peachtree Street
ATLANTA, GEORGIA
Terr: Ga., Ala., and Fla.

BUSKELL BROKERAGE CO.
1135 East Front Street
RICHLANDS, VA.
Contact Wholesale Groceries, Candy Jobbers and National Chains
Terr: Va., W. Va., Eastern Tenn. and Eastern Kentucky

WM. E. HARRELSON
Candy & Allied Lines
5308 Tuckahoe Ave.—Phone 44[illegible]
RICHMOND 21, VIRGINIA
Terr: W. Va., Va., N. & S. Car.

East No. Central States

H. K. BEALL & CO.
308 W. Washington St.
CHICAGO 6, ILLINOIS
Phone STate 2-6280
Territory: Illinois, Indiana, Wisconsin
25 years in the Candy Business

IRWIN R. TUCKER COMPANY, INC.
308 W. Washington Street
Chicago 6, Illinois
Complete Coverage of Chicago Market

ROGER ETTLINGER
Phone Townsend 8-5369
16525 Woodward Ave.
DETROIT 3, MICHIGAN
Terr: Entire state of Michigan

BERNARD B. HIRSCH
1012 N. 3rd St.
MILWAUKEE 3, WISCONSIN
Terr: Wis., Ia., Ill. (excluding Chicago) Mich. (Upper Penn.)

East So. Central States

J. L. FARRINGER CO.
FRANKLIN, TENNESSEE
Established 1924
Territory: Tenn., Ky., and W. Va.
3 Salesmen covering territory

FELIX D. BRIGHT & SON
Candy Specialties
P. O. Box 177—Phone 8-4097
NASHVILLE 2, TENNESSEE
Terr: Kentucky, Tennessee, Alabama, Mississippi, Louisiana

AUBREY O. MAXWELL CO.
91 Franklin St.
NASHVILLE 3, TENN.
Manufacturers Sales Agent
Territory: Middle Tennessee

The MANUFACTURING CONFECTIONER'S *Clearing House*

MACHINERY FOR SALE

FOR SALE: Lynch Wrap-O-Matic Bar Wrapper with Electric Eye. In excellent condition. Box 537, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Package Machinery Co. DF Bar Wrapper, with electric eye. In excellent condition. Box 539, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Friend Bostonian Model Hand Roll Machine in good condition with 240 new wooden trays. **Norris Candy Co., P. O. Box 2208, Atlanta, Ga.**

FOR SALE: #4½ Champion Continuous Feed Cookie Machine to take a 19 inch plaque with ¾ H.P. 110 Volt 60 Cycle motor and five standard dies ½", ⅝", ¾", ⅞" and 1". **Norris Candy Co., P. O. Box 2208, Atlanta, Ga.**

32" ENROBER WITH BOTTOMER, with 80' long Economy Lustr-Koold Tunnel —complete line. Also in same line, cooling tunnel for peanut-honeycombed candies or bars. Box 636, **The MANUFACTURING CONFECTIONER.**

LP-3 POP WRAPPER. U. S. Automatic Cartoning Machine, Simplex Steam cooker, D. F. Bar Wrapper, Instant Fondant Machine, FA-3 Package Wrapper with 4 changes, 600-lb. N. E. Hard Candy Cooker. Box 635, **The MANUFACTURING CONFECTIONER.**

CHOCOLATE EQUIPMENT AVAILABLE: Lehman 7-compartment Cracker and Fanner, Carey & Ross 36" triple mills, 16 x 40 Three-Roll Refiners; 18 x 33 Five-Roll Refiners, Lehman 4-pot Conges, miscellaneous chocolate kettles. Box 731, **The MANUFACTURING CONFECTIONER.**

FOR SALE: New Forgrove 22B Twist Wrapper. Never used. In original crate. Box 833, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 2—Package Machy. 22B Twist Wrappers. Practically new. Hardly used. Box 834, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 3—Package Machy. latest type Model K Kiss Wrappers. With fantail twist. Almost new. Box 835, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 38" and 40" Copper Revolving Pans. With and without coils and ribs. Must be moved immediately. No reasonable offer refused. Box 836. **The MANUFACTURING CONFECTIONER.**

FOR SALE: Hollow chocolate equipment, complete. Suitable for small manufacturer or retailer. Mixer, moulds, etc.—Very reasonable. Reply to Box 832, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 1000 New, unused starch boards, standard size 14" x 32", 70c each. F.O.B. Phila. Also 3000 good, used starch boards. 40c each. **S. Z. Candy Machy. Co., 1140 N. American St., Phila. 23, Pa.**

FOR SALE: Racine "Super Duplex" Automatic continuous sucker machine with 2 sets of water cooled rollers making nationally famous lollypops with automatic icing printer for Santa Pop; 50 foot conveyor and blower; 2 cello-core lolly-pop wrappers with extra sealing rollers for both pops, located in Chicago. Priced right for quick sale. **Capitol Candy Co., 2427 W. 14th St., Chicago, Ill.**

FOR SALE: Currie Stacker (hardly used); FAQ Wrapping Machine; U. S. Automatic Cartoning Machines; CM-2 Cellophane Wrapper; 24" N.E. Enrober with Bottomer, refrigerated slab, and tunnel; 3—125-gal. stainless steel Kettles. Box 8310, **The MANUFACTURING CONFECTIONER.**

MACHINERY WANTED

WANTED: Used Confectionery Laboratory model equipment: mixers, vacuum cookers, beaters, MacMicheal viscosimeter, pH meters, etc. for Sponsored Industrial Research. Write Box 733, **The MANUFACTURING CONFECTIONER.**

WANTED: Package Machinery DF1 Bar Wrapper. State age, condition, and best cash price. Box 6310, **The MANUFACTURING CONFECTIONER.**

BUSINESS OPPORTUNITY

MANUFACTURING OPPORTUNITY—old established Name Package chocolate plant, Midwest—as branch or for sale. December profit $12M. Prepare now for big fall business. Box 634, **The MANUFACTURING CONFECTIONER.**

FOR SALE—Going Candy business—two retail stores fully equipped for making candy, personnel will stay if needed. Located large Midwestern city, terms if needed. Box 837, **The MANUFACTURING CONFECTIONER.**

MISCELLANEOUS

XMAS PRINTED CELLOPHANE. red and green. 300MST. 650 lb. in 7¾ inch rolls. Sacrifice at 60c lb. **Sylvan Sweets Co., Box 48, Easton, Penna.**

POSITIONS WANTED

PAN MAN AVAILABLE: 35 years experience in general pan line. Hot and cold grossing finish and polish, including chocolate pan work. 15 years in charge pan department as foreman. Best of references. Desires a change. Box 438, **The MANUFACTURING CONFECTIONER.**

CANDY PRODUCTION MANAGER—Seasoned administrator, practical candy man, packaging specialist, mechanical background, 12 years experience, accept full responsibility for your plant. Box 632, **The MANUFACTURING CONFECTIONER.**

CANDY EXECUTIVE: Plant manager of leading candy manufacturer for several years. Experienced in all plant operations plus purchasing, production and distribution. Proven ability to assume full responsibility of plant operations. Box 734, **The MANUFACTURING CONFECTIONER.**

CANDY MAKER: Wants position in a high class retail shop making quality goods. Full and varied experience. Box 837, **The MANUFACTURING CONFECTIONER.**

RETAIL CANDY EXECUTIVE—young, aggressive with well-rounded multiple-unit experience in production and merchandising; good education and sound business background. Box 839, **The MANUFACTURING CONFECTIONER.**

HELP WANTED

AN EASY, PROFITABLE SIDELINE! All your customers buy Christmas Cards—for business and personal use. Here's a unique gallery of personalized Christmas greetings for those who want "something different." No other line like it. Selection of 126 exclusive designs, including 36 especially for business firms—all with customer's name. Wide price range. Up to $5 to $75 commission on each sale. Full or part time. For elaborate sample outfit from famous old-established firm, write PROCESS CORP., 1950 S. Troy St., Dept. TB, Chicago 23, Ill.

A CHOCOLATE MAKER WANTED TO HELP SUPERVISE SMALL PLANT MANUFACTURING CHOCOLATE COATINGS, STARS, BUDS, ETC. WRITE YOUR QUALIFICATIONS, AGE, EXPERIENCE, ALSO WAGES EXPECTED. BOX 831, **The MANUFACTURING CONFECTIONER.**

FOREMAN: PRACTICAL CANDY MANUFACTURING FOREMAN FOR FUDGE, CARAMEL AND NOUGAT DEPARTMENT LARGE MIDWEST FACTORY. MUST BE EXPERT SUPERVISOR AS WELL AS CANDY MAKER. AGE BETWEEN 35 AND 50. DO NOT APPLY UNLESS YOU FILL THE ABOVE QUALIFICATIONS. BOX 838, **The MANUFACTURING CONFECTIONER.**

SALES LINES WANTED

PENNY LOLLIPOP LINE FROM THE SOUTH: also Novelty and Confectionery line for Metropolitan New York territory. Personal coverage by two well-known brokers, of all Candy Jobbers, Venders, Supermarkets. Kunz and Eitelberg, Box 33, St. Albans, L.I., N.Y.

METROPOLITAN NEW YORK BROKER with staff of five men can now handle one additional confectionery or specialty line. Excellent contacts with all major supermarkets, syndicates, theaters, candy wholesalers, vending operators, etc. for the past 20 years. Box 8311, **The MANUFACTURING CONFECTIONER.**

INDEX TO ADVERTISERS

In The MANUFACTURING CONFECTIONER

Advertisements of suppliers are a vital part of the industrial publications's service to its readers. The following firms are serving the readers of The MANUFACTURING CONFECTIONER by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry.

Advertising space in The MANUFACTURING CONFECTIONER is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers. Advertising of finished confectionery products is not accepted.

★ ★ ★

RAW MATERIALS

Ambrosia Chocolate Company 70
American Food Laboratories, Inc. 2
American Maize-Products Co. .....June '53
Anheuser-Busch, Inc. 7
Armour and Company 15

Walter Baker Chocolate & Cocoa 11
Basic Industries, Inc. .....June '53
Blanke-Baer Extract & Preserving Co. .....June '53
Blumenthal Bros. Chocolate Co. ....July '53
Burke Products Co., Inc. 24

California Almond Growers Exchange 13
Clinton Foods Inc. .....June '53

Dodge & Olcott, Inc. 60
E. F. Drew & Co., Inc. .....June '53

Felton Chemical Company, Inc. 56
Flavor Corporation of America .....June '53
Florasynth Laboratories, Inc. .....June '53
Food Materials Corporation .....July '53
Fritzsche Brothers, Inc. 4

Funsten, R. E., Company .....July '53

Givaudan Flavors, Inc. .....June '53
Gunther Products, Inc. .....April '53

Hooton Chocolate Co. 72
Hubinger Co., The 75

Kohnstamm, H., & Company, Inc. 17

Magnus, Mabee & Reynard, Inc. ....June '53
Merckens Chocolate Company, Inc. 6
Monsanto Chemical Company .....July '53

National Aniline Division, Allied Chemical & Dye Corporation 59
National Sugar Refining Co., The 16
Nestle Company, Inc., The .....June '53
Neumann, Buslee & Wolfe, Inc. 61
Norda Essential Oil and Chemical Company, Inc. .....4th Cover
The Nulomoline Division .....June '53

Penick & Ford, Ltd., Inc. 62

Pfizer, Chas., & Co., Inc. .....July '53

Refined Syrups & Sugars, Inc. .....June '53

Solvay Process Division, Allied Chemical & Dye Corporation 67
Southern Pecan Shelling Co. 9
Speas Company 12
Staley, A. E., Mfg. Company .....July '53
Stange, Wm. J., Co. .....July '53
Sterwin Chemicals, Inc. .....July '53
Sugar Information, Inc. .....June '53
Sunkist Growers 18, 65
Sun-Ripe Cocoanut Corp. 71
Synfleur Scientific Laboratories, Inc. .....July '53

Union Starch & Refining Co. .....May '53

Van Ameringen-Haebler, Inc. 3

Wilbur-Suchard Chocolate Company, Inc. 10
Wood & Selick Sweetened Cocoanut Co., Inc. .....June '53

PRODUCTION MACHINERY AND EQUIPMENT

American Machine & Foundry Co. .....July '53

Norman Bartleet Limited 8
Baywood Mfg. Co., Inc. 61
Bridge Food Machinery Company 70
Burrell Belting Co. .....July '53

Carle & Montanari .....July '53
Fred S. Carver Inc. .....June '53
Cincinnati Aluminum Mould Co. ....July '53
Corrigan, J. C., Co. Inc. 62

Girdler Corporation, The .....July '53

Greer, J. W., Company .....June '53
Green Mfg. Co. .....June '53
Goddard, J. Alan, Ltd. .....June '53

Haensel-Junior .....July '53

Lehmann, J. M., Company, Inc. .....July '53

National Equipment Corp. 14

E. T. Oakes Corporation, The .....July '53

Peerless Confectionery Equipment Co. .....June '53

Racine Confectioners' Machinery Co. 24, 61, 71, 72
F. B. Redington Co. .....July '53

Savage Bros. Co. 57
Savage, Robert E., Company .....June '53
Schultz-O'Neill Co. 72
Sheffman, John, Inc. 68
Standard Casing Co., Inc., The 63
Stehling, Chas. H., Co. .....July '53

Vacuum Candy Machinery Co. 24, 61, 71, 72
Voss Belting & Specialty Co. .....July '53

PACKAGING SUPPLIES AND EQUIPMENT

Amsco Packaging Machinery, Inc. 48
Apex Paper Box Corporation 46

Bulkley, Dunton Paper Co., S.A. ..June '53

Champion Bag Company 32
Cooper Paper Box Corporation 43
Crystal Tube Corporation .....June '53

Daniels Manufacturing Co. 37
Diamond "Cellophane" Products 70
The Dow Chemical Company .....June '53

Exact Weight Scale Company .....July '53

Gair, Robert, Company, Inc. 45
G. D. Bologna .....July '53

Hayssen Mfg. Company 26

Heekin Can Co., The .....June '53
Hinde & Dauch 49
Hudson-Sharp Machine Co. 34

Ideal Wrapping Machine Company 45
The Industrial Marking Equipment Company 51

I. D. Company 43

Kiwi Coders Corp. 50

Lynch Corporation, Packaging Machine Division 50

Milprint Inc. 27
Nasua Corporation 41

Olive Can Company 30, 31

Package Machinery Co. 38

Quincy Paper Box Company 44

Radio Corporation of America .....July '53
Rhinelander Paper Company 44
Riegel Paper Corporation 42

Shellmar Products Corporation 52
Sweetnam, George H., Inc. 47

Taft, R. C., Co. 50
Thilmany Pulp & Paper Co. 35
Tompkins' Label Service 51
Triangle Package Machinery Co. 33

Union Confectionery Machine Co., Inc. .....July '53

Wright Machinery Company .....June '53

Superior Candy calls for

OK BRAND

CONFECTIONER'S CORN SYRUP!

- Water White!
- Crystal Clear!
- Absolutely Pure!
- Withstands High Heat!

OK BRAND

...the Stamp of Quality!

FREE TECHNICAL SERVICE!

The candy-making experts who staff Hubinger's technical laboratories are available to you for consultation, without cost or obligation on your part.

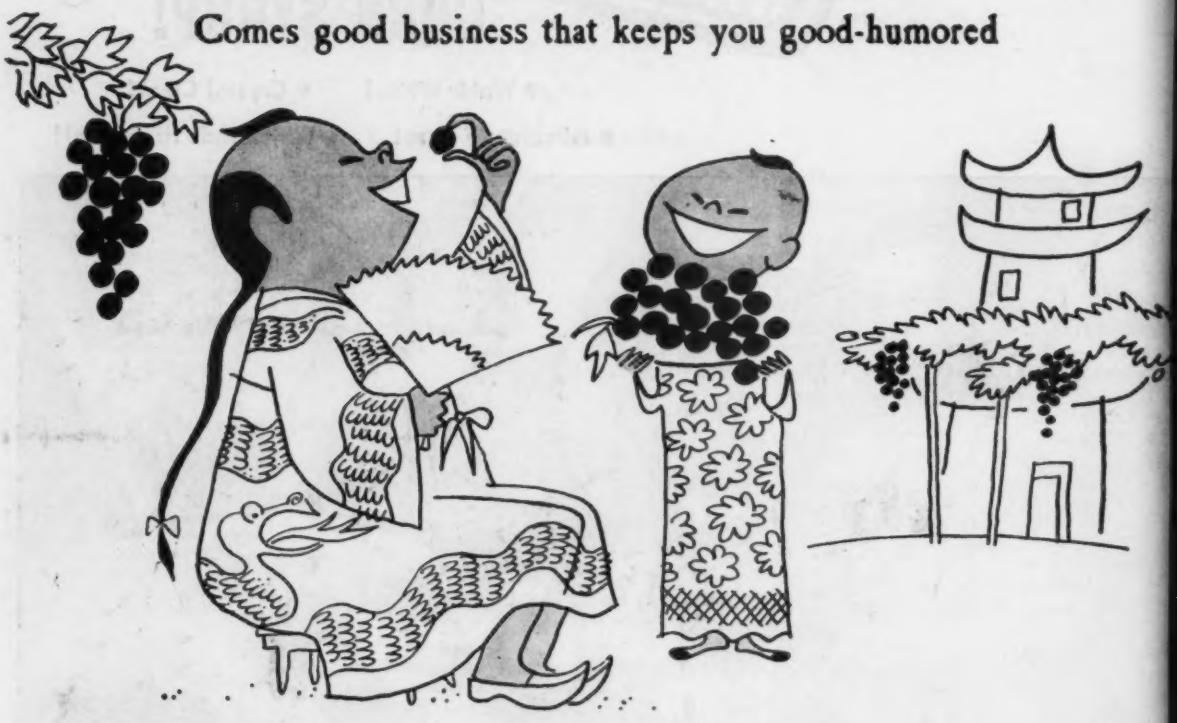
OK BRAND THIN BOILING STARCHES

OK BRAND MOLDING STARCH

THE HUBINGER CO. (EST. 1881), KEOKUK, IOWA

Branch offices: Chicago • New York • Boston • Los Angeles • Charlotte

From the gardens of long-ago China
Came the very first Grape, it's rumored;
From the Norda Grape Flavor you use today
Comes good business that keeps you good-humored



You know how good a fresh grape tastes, from a bunch that has grown ripe and fat in the sun. That's why so many people like Norda Grape Flavor so much. It tastes rich and real.

And it is.

Both Norda Concentrated Genuine and Imitation Grape Flavors re-create the richness of true grape. All the grape goodness is there. The taste is appealing and natural. There's body. There's character.

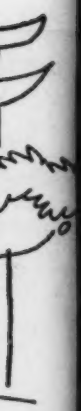
Test, try, and taste Norda Grape for all your grape-flavored products. It will help you improve them. It will help you make money. Generous samples are free. Send for yours today.

Use "A Favorite to Flavor It"
. . . . A Norda Flavor

Norda

ESSENTIAL OIL AND CHEMICAL COMPANY, INC
601 West 26th Street, New York 1, N. Y.

CHICAGO • LOS ANGELES • SAN FRANCISCO • DALLAS • MONTREAL • TORONTO • HAVANA • LONDON • PARIS • GRASS



PANY, INC
Y.

• GRASS